SCHEMATIC DESIGN
SUBMITTAL

UNIVERSITY OF
ARKANSAS

POMFRET HONORS QUARTERS

Fayetteville, Arkansas

JANUARY 22, 2010

WD&D ARCHITECTS

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University of Arkansas

POMFRET HONORS QUARTERS

Schematic Design

—Submittal—

January 22, 2010

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A. PROJECT SUMMARY

Project Summary

A.1 Executive Summary

Pomfret Hall, located at the University of Arkansas – Fayetteville was constructed in 1967 and is home to the University's Honors College. The Hall has seen little renovation or remodeling since its construction yet building systems have been well maintained. Student rooms currently have the smallest floor plate of all student residence halls on campus and built-in furniture with the exception of free-standing beds.

The building is heated by a steam-to-water system provided by boilers in the building and cooled by a building water cooled chiller. All HVAC systems are aging, in disrepair, or at the end of their useful life and should be replaced with new, more energy efficient systems.

The exterior building skin consists of brick masonry, aluminum frame windows and precast fascias and soffits. Exterior brick is in good condition but precast needs repainting.

Window and curtainwall systems need to be replaced with a thermally-broken aluminum frame system utilizing energy efficient insulated glass.

Roofing on A, C and D wings are in disrepair and need replacing. Roofing on B wing, although relatively new, may need drainage improvements to see it through to it's full life expectancy.

Tower B currently has two eight-stop elevators, accessing all student floors. Wing A has a two-stop freight elevator in the kitchen. Wings C and D do not have elevators and are currently not accessible to the handicapped above the first residential floor. All elevators, although maintained on a regular basis, are in need of replacement and wings C and D need elevators for accessibility.

Interior walls throughout the building are constructed primarily of CMU with little acoustic insulating value. Sound transmission values throughout the building need improvement, particular in quiet study areas that are adjacent to or in close proximity to active spaces.

Interior finishes throughout are dated although terrazzo flooring in wing A could be refinished to a new appearance if it can be retained. Floor tile in residential wings are asbestos-containing as is the sprayed insulation on the waffle slab in wing A. Abatement of asbestos-containing materials may need to be conducted prior to renovation.

Overall, the building is structurally sound and well-constructed of durable materials that are in good condition. The design is that of a traditional student residence hall of the 1960's yet it maintains the capability of being renovated into a sustainable, dynamic environment, with all the necessary requirements and amenities of a newly constructed student housing complex. In fact, the current GREAT ROOM, a large, two-story volume that adds architectural significance to the building would likely not be feasible in the current environment of tight budgets for academic and residential housing structures. To be able to retain Pomfret Hall as a viable housing facility on the University of Arkansas campus with modifications to bring it up to current standards in student housing is a tribute to the original building designers and to the University maintenance efforts.

In consideration of the cost of a new structure of the same size, to accommodate the same number of students, with full kitchen and dining facilities, the cost would likely exceed $232/SF[1] whereas the renovation of this facility is currently budgeted at $151/SF. Median costs being reported by the *College Planning & Management's* 2009 College Housing Report shows that an 8% drop from that of 2008. This report indicates a median project cost per bed for 2009 new construction to be $78,760[2] whereas this project is $58,140/bed.

SUMMARY OF PROJECT GOALS

The goal of the project is to design a premier Honors College Quarters in the nation with regard to function and resources. The facility should convey the message to prospective students that this is an academic learning environment, focused on student achievement. The facility will be a vehicle for recruitment of the best and brightest students, retain upper level honors students as mentors for younger and improve the building functionally, environmentally and aesthetically.

1 "Living on Campus", 2009 College Housing Report, *College Planning & Management;*

2 These numbers are for a facility of comparable size as Pomfret Hall, 500+ Beds;

PROGRAM SUMMARY

Following is a summary of the program for the renovation of Pomfret Honors Quarters.

Program Category		NSF Area
Residential Spaces		
Double Occupancy Rm (696 beds)	344 rooms	66,381
RA Single Occupancy Rm (25 beds)		4,675
Hall Coordinator Residence	(2) 2BR / 2BA	2,840
Grad Student Apartment	(1) 1 BR / 2BA	905
Guest Apartment	(1) 1 BR / 2BA	905
Faculty Apartment	(1) 3 BR / 3 BA	2,295
Residential Community & Support		27,055
Staff/ Administrative		1,570
Building Commons		4,860
Living Learning Overlay		10,025
Support Spaces		5,670
Food Service		14,760
Total NSF		**141,940**
Gross Ratio Factor		**1.54**
Total GSF		**218,046**
GSF/Bed		**317**
Net to Gross Efficiency %		**0.65**
Total Existing GSF		198,170
Additional Program Area		**19,875**

Approximately 11,200 SF of the additional program area is attributed to expansion of the student room to include the floor slab extension beyond the exterior wall. The typical student room will increase from an average 170 SF to 200 SF for an increase of 17.6%.

The additional program area of 8,675 SF is for added program space.

SUSTAINABILITY SUMMARY

Attention was taken during design to provide systems and features that increase the energy efficiency of HVAC, plumbing and lighting systems. This effort was done to enhance the facility from the standpoint of sustainability and to assure that the facility will be viable for the next 40-50 years with regard to function as well as cost efficiency.

Consideration was also taken to design and locate interior spaces within the building that would allow maximum benefit from natural daylighting. Additional skylights and/or light wells will be added in the center of wing A to allow daylighting into spaces that do not have the advantage of being on the perimeter where windows can allow light into the center of the floorplate. Spaces that do not require natural light or views to the exterior are located in the lower level interior parts of the building.

Other environmental design considerations that research shows to be beneficial to student effectivity and their overall enjoyment of their living/learning spaces are being incorporated, such as thermal / acoustic control, appropriate ventilation and control of indoor pollutants.

PROJECT PHASING SUMMARY

Project Kick-off/Partnering Meeting	June, 2009
Preparation & Coordination	July, 2009
Predesign & Programming	July-August, 2009
Schematic Design	Sept-December, 2009
Design Development	Jan-March, 2010
Construction Documents	April-August, 2010
Maintenance Projects & Targeted Asbestos	June-August, 2010
Phase I (Wing A & Wing B1)	Sept., 2010-May, 2011
Phase II (Wing B – Floors 2 through 8)	June, 2011 – May, 2012
Phase III (Wings C & D)	June, 2012 – May, 2013

PROJECT BUDGET SUMMARY

Approximate Project Cost:	$40,000,000
Approximate Construction Cost:	$33,000,000
Approximate Cost/Area:	$151/SF*

**(based on Construction Cost divided by the Schematic Design Program building area of 218,046 GSF)*

PROJECT COST ESTIMATE SUMMARY

	CURRENT	ESCALATED
General Construction**	$35,643,201*	$36,419,392
FF&E	$ 2,079,123	$ 2,128,226
	TOTAL: $37,722,324	
	$173.00/ SF	

** Numbers INCLUDE Civil/Landscape, Asbestos Abatement and Kitchen Equipment.*

** Number includes Value Management Options

A.2 Project Team

A project of this stature requires the dedication of a great number of people from all sectors of the university community. We'd like to express sincere gratitude to all who have participated in this programming process thus far:

Steering Committee
Randy Alexander, Executive Director, Housing
Jerrid Freeman, Director, SA Auxiliary Service
Lynne Williams, Director Business Services
Bob McMath, Dean, Honors College
Carol Gattis, Assistant Dean, Honors College
Maribeth Lynes, Director Recruiting, Honors College
Mike Johnson, Associate Vice Chancellor for Facilities
Jay Huneycutt, Director Planning & Capital Services, FAMA
Bob Beeler, Director Design & Construction Services, FAMA
Dan Street, Construction Coordinator, FAMA
Jill Anthes, Planning Project Manager, FAMA
Todd Furgason, Campus Planner, FAMA

University of Arkansas Housing Staff
Grant Carlson, Pomfret Resident Director
Jonathon Manz, Pomfret Program Coordinator

University of Arkansas Housing Maintenance
Reggie Houser, Asst. Director Facilities Administration
Tom Sluppick, Asst. Director Facilities Maintenance
Linda Campbell, Asst. Director Resident Facilities
Dennis McDonald, Pomfret Building Maintenance Supervisor
Wanda Tackett, Housekeeping Coordinator

University of Arkansas Dining and Food Service
Kathy Roberts, Building Food Service Director, Pomfret
Bill Zemke, Director Food Service Operations
Mark Van Becelaere. Dining Services Technician
Brad Mize, Dining Services Technician

This Schematic Design Report
is being submitted by the following:

WITTENBERG DELONY & DAVIDSON ARCHITECTS
TREANOR ARCHITECTS
TME, INC. CONSULTING ENGINEERS
ENGINEERING CONSULTANTS, INC.
CMG FIRE

In collaboration with

NABHOLZ CONSTRUCTION
COMFORT SYSTEMS USA ENERGY SERVICES

A.3 Project Description

Pomfret Hall is the largest residence hall on the University of Arkansas (UA) campus. It currently houses approximately 800 students in one eight-story wing and two low-rise wings. The floor layout is similar to many other sixties residence halls on campus, with two resident assistants (some floors have one) and 54 students housed per typical floor - all in traditional double rooms with shared hall baths. The student rooms currently are the smallest on campus at 170 square feet per room.

The building features a dining hall, two classrooms, meeting rooms, a music room, and a large social area. The 'great room' in Pomfret Hall exhibits great potential with a large floor area and an abundance of natural light, but is under-utilized with regard to function.

Pomfret is the current home to the University of Arkansas Honors College. Having recently received a generous donation from the Walton Family Charitable Support Foundation, the university intends to create the most renowned honors college in the nation with regard to function and resources. The renovation of Pomfret Honors Quarters will support this endeavor by offering a more modern, attractive, and functional living/learning community to enhance the ability to attract honors students to campus. The renovation will upgrade all building systems including elevators, modify shared bathrooms to increase privacy, improve living and sleeping space by replacing built-ins with new furniture, provide the honors program with more functional support spaces. It hopes to enhance the dining experience by creating a more interactive 'marketplace' eating experience and accomplish accessibility to all public and most private areas.

It is anticipated that the renovation will be phased over several years and will be fully commissioned and constructed to the equivalent of LEED Silver or Two Green Globes.

A.4 The University of Arkansas Honors College

"The purpose of honors is not to reward past achievement, but to ...

- **foster continued intellectual growth**,
- **cultivate a lifelong love of learning,**

and to

- **prepare each student for life as a leader and agent of change**."

The honors college currently enrolls more than 2,000 high-achieving students. Honors college freshman predominantly live in the 'B' tower of Pomfret Hall where the Freshman Year Experience (FYE) is focused. This wing also offers study lounges and an advanced computer lab for student use.

The honors college includes honors programs in each of the academic programs, many of which do not enter students until the second or third year. As a result, many freshman and sophomore students share classes and benefit from opportunities to study with fellow students.

Access to higher level majors in the college and in the honors quarters allows for mentoring opportunities by upper level students, many of who are engaged in undergraduate research and special projects in their major with university professors. The 'incidental' contact with upper level students in their major allows first and second year students the opportunity to share in upperclassmen experience and knowledge more readily than the normal student experience. Many of the honors students are involved in undergraduate research projects and other directed studies.

Academic departments with a large presence in Pomfret are often clustered together on floors, such as business, engineering, the sciences and ROTC. These groups tend to vary each year so floors designed for a specific group are not desirable; flexibility is preferred.

Currently the honors college staff in Pomfret Hall includes live-in graduate assistants as student counselors, permanent staff for organizational events and administrative support. An existing classroom allows for seminars, lectures, discussion groups as well as provides a space for other group activities such as music sessions, yoga, faculty-student presentations, and PAC discussions.

A primary purpose of the honors college is not only the continued involvement of current scholars in academically challenging activities but the ongoing recruitment of qualified students. One of the primary vehicles to accomplish this is by encouraging participation in college sponsored events in the residence hall and through interaction with honors college staff. It is an Honors College goal that staff offices to be easily accessible and highly visible to all in the residence hall.

A.5 Mission Statement

In support of the University of Arkansas' goal ***to create the most renowned honors college in the nation*****,** the renovation of Pomfret Hall Honors Quarters will create a world class living-learning environment to **attract and retain the best and brightest students in the nation.**

The attractive and functional building must connect with, and send a message to campus that Pomfret Hall is a **premier academic learning environment**.

This intellectual community must have a new front door, maximize **indoor/outdoor interaction**, provide **flexibility**, and take advantage of **natural daylight**.

The renovation will focus on **appealing to, engaging and supporting the honors college student**, while maximizing the financial resources of the university.

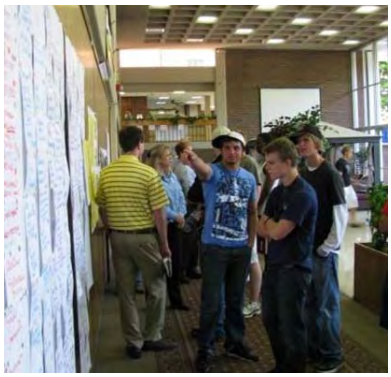
B. SCHEMATIC SPACE PROGRAM

Schematic Space Program

B.1 Summary of Process

A steering committee kick off meeting/ workshop was held July 14th to facilitate and discover the objectives of the project and help establish appropriate and pertinent goals. Participating at the meeting were various groups representing stakeholders on the project. Those groups involved are the following:

- Steering Committee/ Building Team
- Housing Executive Staff
- Housing Residential Education
- Honors College Administration & Staff
- Student Representatives
- Residential Facilities
- Facilities Management Planning
- Food Service – Chartwells
- Transit and Parking



The design team presented Honors College research in order to insight conversation about how the University of Arkansas Honors College currently functions and to discover what it wants to become.

The design team then reviewed the existing building program and space use, space layout, existing mechanical and structural systems and their conditions and discussed the buildings capacity for adaptation.

An interactive exercise, designed to glean project goals, facts and needs was conducted with the steering committee and consequently other user groups. The results of that exercise follows.

B.2 Project Goals & Objectives

It became clear during the Programming workshop that the UA Honors program is intentionally inclusive. This program reaches out to students who might have the capability and background but for reasons unknown, have chosen not to be involved in the honors college. Creating an intellectual 'community' in Pomfret that is active, vibrant, contemporary, diverse and comfortable such that students can develop confidence in themselves, learn from each other and come away with the skill-sets and confidence to become the leaders of the future.

Primary goals resulting from the steering committee meeting are the following:

- Create a World Class Living & Learning Environment; the **premier residential honors college in the nation** in terms of function and resources.
- The building needs to **exhibit a unique identity**—
  - Send message: "Academic Learning Environment"
  - Exemplifies the honor student community
  - Distinguishable from the exterior-'**aesthetic appeal'**.
- The building needs a clear main entry, ***a front door;***
- Supportive of **academic success** in provision for—
  - Study areas
  - Technology centers
  - Collaborative learning areas
  - Resources
  - Tutoring spaces
- Building that is supportive of **student goals**
- Create a **sharing environment**—**intellectual community**.
- An environment that **focuses on student development** and integration into university.
- The facility as a vehicle for **recruiting the "best and the brightest"** as well as recruiting from within—selling a 'great community'.
- Capitalizes on the psychological value of **interactive space**—**spontaneous engagement**.
  - Honors students are interacting with other student.
  - Older students mentoring younger.

- **Increase Retention**—Engage Students…Meet Needs;
  - An environment where older students would want to continue to live in the facility
- **Dynamic dining hall** with smaller, intimate areas.
- Honors **offices need to be more prominent** in building; easily accessible and visible to public and student circulation.
- **Sustainable** building
  - Use of natural daylight
  - Model for cost saving energy
  - Model for renewable energy sources
- Maximize **Indoor / Outdoor** Interaction
- Spaces within the building need to be more **intentional**—designed for an honors college—**purposeful**.
- Sense of **Flexibility**
- Maximize ROI (maximize value – most bang for the buck)
- Integrate the building **with main campus—connect**

B.3 Relevant Facts & Needs

The University of Arkansas has approximately 2000 honor students, half of which are on scholarship; there are approx. 400 honor students residing in Pomfret. University-wide, retention is approx. 52%.

Students in Pomfret currently come from one of several of the following demographics:

- Approximately half are students currently enrolled in the Honors College;
- Another 1/4 are students that meet the qualifications for the honors program but are not currently enrolled in the College;
- The remainder of student occupants are late comers who need housing but have not applied early enough to be placed in one of the other resident halls; these students typically do not meet the qualifications for admission into the Honors College.

Pomfret Hall currently has 25 Resident Assistants and 2 Hall Coordinators. Each floor in wing B (Freshman Year Experience) has 2 RAs per floor; wing C has 1 RA per floor with one floor having 2 RAs; wing D has 1 RA per floor with two floors having 2 RAs. Wing D also has a number of double occupancy rooms that are leased as singles.

One Hall Coordinator oversees the FYE in wing B and the other oversees the Hantz House, wings C and D.

Although the building is showing it's age (40+ years) there remain many ***positive features*** about its design that should be mentioned. The building has abundant natural light coming into each of the student rooms and into many of the areas of the commons building. The great room has an entire two story glazed wall on the east, allowing natural light to flood the space, the dining area on the mezzanine level, and filtering to servery areas and other spaces adjoining the room. With the exception of a few hours in the morning, most all of the light is indirect so glare is minimized.

The fact that the building has a kitchen and dining hall is a great feature for the residents and others working on that side of campus. The dining room seat from 390 to 400 peoples, making it a great place for summer camps, particularly for the athletic department due to its proximity to many of the sport venues in the vacinity.

The building also has the feel of spaciousness with a high level of common space for resident use for social activities such as formal and informal gatherings.

The ***negatives*** to the building are the effects of its age and the fact that it has had minimal upgrades since it was constructed. There are other residence halls that are more modern with regard to finishes and furnishings and competition for these student living facilities are in great demand.

The building also does not appropriately reflect the Honors College for which it is the home to a large number of its students. The building will need to be adapted to fit the purpose, functions and the image the College desires to reflect.

And probably one of the most undesirable aspects of living in Pomfret Hall is its location down slope from the main academic center of the University where most classes are held. Although the actual distance is not much more significant than for other housing options, the walk up the hill makes it feel like it's much further.

PROGRAMMATIC NEEDS

Living Learning Overlay

In addition to the spaces they currently occupy in Pomfret Hall, the Honors College would like to expand it's resources by providing an apartment for a faculty-in-residence or to accommodate a visiting lecture series. Other component spaces that should be included in the new Pomfret housing:

- Flexible classrooms with breakout areas
- Lounges and interior space for formal and informal gatherings—Living Room
- Multi-purpose space for large event gatherings
- Community Learning Center; an interactive collaborative space for 75-80 with amenities that support learning
- Outdoor courtyards
- Music rooms (several individual and a group room)
- A place to show films and hang art
- A spot for "fireside chats" with faculty members
- Faculty office space
- Gallery and/or Film Viewing

Residence Halls

The residential component of the honors quarters currently has the smallest student room on campus while sharing a 'communal' restroom and shower. Upgrades to both conditions are desired in the renovation, along with other improvements as listed below:

- Private baths and showers
- Larger student rooms
- Semi-suites for upper level students
- Approximately 700 student beds
- Accessible bathrooms
- Kitchenettes on Floors
- Floor Lounges
- Common Spaces—Large to Small
- Rec Room /Game Room Component
- Common Lounges—Formal and Informal
- Smaller Group Spaces in "Great Room
- Storage for Great Room that will accommodate a stage
- Coffee Shop
- Consolidated Res Education Services—one reception desk, offices, one mail delivery point, work room, etc.
- A common 'MAIN' Entry
- Improved Hall Director apartments, with exterior entrance
- Flexible room layouts with moveable furniture
- Laundries on Student Floors (1:20)
- Linen Storage on floors
- Retain trash Chutes
- Centralized Recycling, each floor

Other needs for the building are listed below, by category –

Food Service:

- Small dining room with separate access for Honors use
- Small dining room improvement; keep intimate, quiet dining experience;
- Extra Freezer for satellite storage

- Change style of food preparation to more of a Market Place style—Bring food prep forward, move out from Kitchen, cook to orger . . .
- Design kitchen for efficiency
- Need dining seating for 400 for summer camps
- Coffee Shop or some other type of late-night food service
- Make food POP—focus on presentation
- Exhaust Hood Lacking in kitchen

Housekeeping & Maintenance:

- Main Housekeeping Storage needed, near elevator
- Current main linen storage is adequate
- Laundry Central for Housekeeping—Commercial Grade
- Main Custodial Storage needed, near elevator
- Custodial closet with mop sink each residential floor
- Staff restroom/breakroom
- Shop needs to be more efficient
- Central Trash at Dock with 3-4 carts in size (3'x4')
- Wall-hung, dual-flush toilets

Building Exterior:

- Outdoor Courtyards
- Improve WEST side Face
- Improve EAST side as it addresses the street
- Improve grounds on NORTH side; connection to building
- Eliminate Bus Stop Entry on East Side/Relocate bus stop
- Outside Patio -- expand for Great Room; Enliven
- Correct drainage issues around building
- Replace roofs on building as needed
- Repair cracks in retaining walls
- Add bike storage with lighting

Miscellaneous:

- Add windows to East end of wing B
- Improve acoustics throughout
- Provide better accessibility to all areas of building
- Open building commons to all campus and public for use

B.4 Schematic Space Program

The following schematic space program is a compilation of what we've heard from the University Housing officers and the various stakeholders in regard to what Pomfret Hall needs to achieve its goal to become a premier Honors College in the country in regard to ***program and function***. The Program is summarized below:

Bed Count Analysis:

EXISTING

Bldg.Wing	Rooms/Flr	Occ	Beds/ Flr		# Flrs	Total Rooms	Total Beds
B	30	2	60		7	203	420
C	29	2	58		3	84	174
D	29	2	58		4	116	232
					14	403	826
			RA's	=		25	50
				Total Rooms Minus RA's:		**378**	
				Total Beds Minus RA's:			**776**
				Community Size:		**31**	

NEW with Community Lounge and Study Room per floor

Bldg.Wing	Rooms/Flr	Occ	Beds/ Flr		# Flrs	Total Rooms	Total Beds
B2/B3-8	25/27	2	53.4		7	187	374
C	26	2	52		3	78	156
D	26	2	52		4	104	208
					14	369	738
			RA's	=		25	50
				Total Rooms Minus RA's:		**344**	
				Total Beds Minus RA's:			**688**
				Community Size:		**27.5**	

Program Summary

		NSF Area
Residential Spaces		
Double Occupancy Rm	344 rooms	66,381
(696 beds)		
RA Single Occupancy Rm		4,675
(25 beds)		
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Total GSF		**218,045**
GSF/Bed		**317**
Net to Gross Efficiency %		**0.65**
Total Existing GSF		198,170
Additional Program Area		**19,875**

Schematic Design Program for Pomfret Honors Quarters

	Function	Ratio	PREDESIGN PROGRAM Occ.	Program NSF	Quan Rms.	Total NSF	Total Beds	SCHEMATIC DESIGN PROGRAM Occ.	Actual NSF	Quan Rms.	Total NSF	Total Beds	Var.	% Dif	Description	Adjacencies	Furniture / Fixtures / Equipment
Residential Spaces																	
Student	Traditional Rooms														Flexibility needed		
	Standard Double Occupancy Room (C&D)		2	200	269	53,800	538	2	187	143	26,741	286			Include sink and fan coil in unit		2 wardrobe, 2 beds, 2 desks, 2 chairs; Flexibility needed;
	Corner Unit at all Levels (C&D)		2	229	56	12,824	112	2	204	28	5,712	56			Corner rooms in each building		2 wardrobe, 2 beds, 2 desks, 2 chairs; Flexibility needed;
	Standard Double Occupancy Room (B)							2	193	138	26,634	276					
	Corner Unit at all Levels (B)							2	211	28	5,908	56					
	End Unit at Ground Level (D-116, C-116)		2	185	2	370	4										2 wardrobe, 2 beds, 2 desks, 2 chairs; Flexibility needed;
	End Unit at Upper Levels (D-x16, C-x16)		2	200	5	1,000	10										2 wardrobe, 2 beds, 2 desks, 2 chairs; Flexibility needed;
	End Unit at all Levels (B-x08, B-x23)		2	213	14	2,982	28	2	198	7	1,386	14					2 wardrobe, 2 beds, 2 desks, 2 chairs; Flexibility needed;
					346	**70,976**	**692**			**344**	**66,381**	**688**	**-4,595**	**-6.5%**	Wings to be secured from public part of building "A"		
Staff	Hall Coordinator	1: 400															
	2 - Bed Apartment			1,200	2	2,400			1,532	1	1,532		*332*	18.4%	Exterior Entrance Needed	Remote from front desk	
									1,310	1	1,310		*110*				
	Residential Ed Staff (RA's)	1:24 (11 flrs.)															
	Traditional Student Room (B,C,D)	1:48 (3 flrs.)	1	200	25	5,000		1	187	25	4,675		-325	-6.5%	11 Floors w/communities of approx. 24; 3 floors w/communities of 48;	Adj.to center of commty;	
					27	**7,400**				**27**	**7,517**		**117**	**1.6%**			
Other	Honor College Grad Student:																
	1 - Bed Apartment			820	1	820			898	1	898		78	9.5%			
	Guest Apartment																
	1 - Bed Apartment			820	1	820			911	1	911		91	11.1%	Short-term stay;		
	Faculty Apartment																
	3 - Bed Apartment			2,500	1	2,500			2,293	1	2,293		-207	-8.3%	LR sized for 10-12 people; 21/2 baths; family living; exterior & interior entrance; garage (if feasible);	Access to students; Exterior entrance;	
					3	**4,140**				**3**	**4,102**		**-38**	**-0.9%**			
Residential Community & Support Spaces																	
	Hall Bathrooms (C&D)	1:4 beds		60	80	4,770			59	77	4,522		-248	-5.2%			
	ACC Bath (C&D)			80	7	560			82	7	574		14	2.5%			
	Hall Bathrooms (B)			60	80	4,770			75	77	5,775		1,005	21.1%			
	ACC Bath (B)			80	7	560			79	7	553		-7	-1.3%			
	Floor Lounge (C&D)		48	400	7	2,800		48	380	7	2,660		-140	-5.0%			TV; soft seating
	Floor Lounge (B)			400	7	2,800			397	7	2,779		-21	-0.8%			
	Quiet / Study Lounge (B, C & D)	1:community	12	250	21	5,250		12	283	14	3,955		-1,295	-24.7%	2 study rooms on B wing floors, 1 study room on C and D wing floors		Table & chairs; soft study seating
	Kitchenette (B, C & D))			60	14	840			0	7	0				Sink, refrigerator, microwave, cabinets with counter	Adj. to floor lounge	Tables & chairs
	Laundry (B, C & D)	1:20/ floor		115	14	1,610			0	7	0				3 machines/ floor; sink, counter		Laundry vending machines
	Kitchen/Laundry (B, C & D)								206	14	2,877		427	17.4%			
	Linen Storage (B, C & D)			80	14	1,120			40	14	560		-560	-50.0%	similar to existing space; 18" D shelving		
	Housekeeping (B, C & D)			50	14	700			36	14	504		-196	-28.0%			
	Janitorial (B, C & D)			50	14	700			40	14	560		-140	-20.0%			
	Trash (B, C & D)			35	14	490			24	14	336		-154	-31.4%	trash chute desired		
	Recycle (B, C & D)			35	14	490			20	14	280		-210	-42.9%	niche in wall for 5 receptacles		paper, plastic, alumin, glass, card paper containers
	Electrical (B, C & D)			40	14	560			40	14	560		0	0.0%	4 x 10 room on each floor		
	Data / IT (B, C & D)			40	14	560			40	14	560		0	0.0%	Security, data, CATV, and Fire Alarm room		
						28,580					**27,055**		**-1,525**	**-5.3%**			
Building Commons																	
	Lobby			500	1	500			641	1	641		141	28.2%	w/ reception desk; lockable.	main entrance	
	Living Room			1,500	1	1,500			1,838	1	1,838		338	22.5%	w/ fireplace	main entrance	coffee kiosk, baby grand piano, soft seating
	Unisex / Family Toilet			50	2	100			93	1	93		-7	-7.0%		(1) Unisex	
	Rec Room			2,000	1	2,000			1,983	1	1,983		-17	-0.9%	2 pool & 2 ping pong tables, Wii, Soft sitting area w/TV		
	Storage			200	1	200			0	1	0		-200	-100.0%	For pool tables or other equip; use building storage;	Widened Hallway	
	Storage			130	1	130			121	1	121		-9	-6.9%	Cart storage for move-in day-8' x 10' ideal; misc. other		carts, shelving
	Vending	1:wing		100	4	400			184	1	184		-216	-54.0%	In nitch off corridor; 3 machines ea; acoustic separation from student rooms;	1 on lower level; 1 upper level; includes coffee kiosk	
						4,830					**4,860**		**30**	**0.6%**			
Living Learning Overlay																	
	Multi-purpose / classrooms		600	3,000	1	3,000			1,302	2	2,603		-397	-13.2%	divides into 2 classrooms; luau, stage, yoga	outside	large TV screen; video conferencing; demountable stage
	storage			250	1	250			242	1	242		-8	-3.2%	storage to support multi- purpose room (stage, tables & chairs, etc.)		tables, chairs, small stage
	Prefunction space			500	1	500			778	1	778		278	55.6%			
	Restrooms			250	2	500			199	2	397		-103	-20.6%			
	Unisex Toilet								93	1	93		93	100.0%			
	Community Learning Center			3,000	1	3,000			3,097	1	3,097		97	3.2%	accommodates 75-80; tutoring for 4-6 people/rm, instructional area, collaborative study; computer station(s), lounge seating, staff workstation; needs high acoustic attention;		

Schematic Design Program for Pomfret Honors Quarters

Function	Ratio	PREDESIGN PROGRAM Occ.	Program NSF	Quan Rms.	Total NSF	Total Beds	SCHEMATIC DESIGN PROGRAM Occ.	Actual NSF	Quan Rms.	Total NSF	Total Beds	Var.	% Dif	Description	Adjacencies	Furniture / Fixtures / Equipment
Living Learning Overlay (cont.)																
Video Production Room			350	1	350			355	1	355		5	1.4%	Flexible lighting; Acoustic separation; Separate HVAC?		
Faculty Involvement																
Faculty office		4	260	1	260		4	305	1	305		45	17.3%	shared office space for 4		
Fireside Chat room			300	1	300			313	1	313		13	4.3%	for faculty discussions with students/ works as a study room too.		
Music Practice room																
small practice		2	80	1	80		2	91	2	182		102	127.5%	practice room with upright piano		
medium practice		4-8	250	1	250		4-10	433	1	433		183	73.2%			
Honors College Admin																
Offices			185	2	370			191	2	381		11	3.0%	1 Executive with small conf., 1 grad for 2 0cc., small		
Seminar Room					0		18-20	300	1	300		300	100.0%	Set up as conference or classroom	Honors Offices	Flexible tables (to reconfigure) and chairs
Reception w/ desk			250	1	250			414	1	414		164	65.6%			
Work room/Break room			150	1	150					0		-150	-100.0%	Sink, refrigerator, microwave;	Shared with Honors College staff.	fax, copier, etc.
Storage			60	1	60			81	1	81		21	35.0%			
Toilet			50	1	50			52	1	52		2	4.0%			
					9,370					**10,026**		**656**	**7.0%**			
Staff / Administrative																
Reception Desk		2	250	1	250		3	299	1	299		49	19.6%	lockable	Lobby, workroom, mail, main entry	
Mail Boxes & Parcels		800	420	1	420		1/rm.	153	1	153		-267	-63.6%	back-fed boxes, serviced from workroom	Adj.to workroom & reception;	
Offices					0											
Hall Director			185	2	370			193	2	386		16	4.3%		Adj.to reception desk	
Conference room / future office			185	1	185			253	1	253		68	36.8%		Adj. to offices	
Work Room		4-8	375	1	375		4-8	356	1	356		-19	-5.1%		Adj.to staff offices; shared with Honors College staff.	
Storage			120	1	120			121	1	121		1	0.8%	storage of vacuum sweepers for students, games, etc.	Adj.to reception desk	
					1,720					**1,568**		**-152**	**-8.8%**			
Food Service																
Kitchen / Dining																
Kitchen/ Production	8 SF/seat;	300	2,400	1	2,400			1,994	1	1,994		-406	-16.9%	Serving 400 at 80% efficiency is 300 seats	Servery	
Servery/ Cashiering	9 SF/seat	300	2,700	1	2,700			2,449	1	2,449		-251	-9.3%	Serving 400 at 80% efficiency is 300 seats	Kitchen area, dining area	
Dishwashing	2 SF/seat	300	600	1	600			788	1	788		188	31.3%	Serving 400 at 80% efficiency is 300 seats	Kitchen area, dining area	
Dining- Open	15 SF/seat	325	4,875	1	5,175			4,899	1	4,899		-276	-5.3%	Summertime Capacity Required; size based on existing area		
Private dining		35	525	1	525		35	500	1	500		-25	-4.8%			
Private dining		20	300	1	300		20	309	1	309		9	3.0%			
Dining Storage								400	1	400		400	100.0%			
Public Restrooms			250	2	500			199	2	397		-103	-20.6%			
Unisex Toilet								93	1	93		93	100.0%		Dining	
					12,200					**11,829**		**-371**	**-3.0%**			
Offices																
Director			120	1	120			115	1	115		-5	-4.2%			
Supervisor			120	1	120			123	1	123		3	2.5%			Counter, desk, chairs, files
Reception, Chef & Receiver			300	1	300			303	1	303		3	1.0%			
Cash Wrap								78	1	78		78	100.0%			
Staff Amenities																Lockers, toilet accessories, lounge furniture
Restrooms/ Lockers/ Lounge			225	2	450			221	2	441		-9	-2.0%			Desk & chair, bulletin board, timecard rack
Check-in, Timeclock			100	1	100			114	1	114		14	14.0%	Sink, cabinets		Refrigerator, microwave, tables & chairs
Breakroom			150	1	150			153	1	153		3	2.0%			
Storage–Pomfret food service																
Dry Goods, Paper & Misc.			550	1	550			546	1	546		-4	-0.7%			Shelving
Clean Linen			75	1	75			53	1	53		-22	-29.3%			Shelving
Soiled Linen			50	1	50			49	1	49		-1	-2.0%	Linen chute from upper level		
Storage--Satellite Operations																
Head Start--EOA Dry			100	1	100			104	1	104		4	4.0%			
Opportunity Buys--for bulk buying			335	1	335			329	1	329		-6	-1.8%	Need Freezer space; Limited Access	Dock	
RZ's Coffee			150	1	150			139	1	139		-11	-7.3%	Air Conditioned; Door Lockable	Dock	
Utility																
Cardboard Recycling/ Compactor			200	1	200			228	1	228		28	14.0%			Compactor
Custodial w/Mop Sink			50	1	50			65	1	65		15	30.0%			Shelf w/ mop holder
Chemicals			35	1	35			46	1	46		11	30.0%			Shelving
Cleaning Equipment			35	1	35			46	1	46		11	30.0%			Shelving
					2,820					**2,931**		111	3.9%			

Schematic Design Program for Pomfret Honors Quarters

Function	Ratio	PREDESIGN PROGRAM Occ.	Program NSF	Quan Rms.	Total NSF	Total Beds	SCHEMATIC DESIGN PROGRAM Occ.	Actual NSF	Quan Rms.	Total NSF	Total Beds	Var.	% Dif	Description	Adjacencies	Furniture / Fixtures / Equipment
Support Services																
Maintenance / Housekeeping																
Breakroom			250	1	250			332	1	332		82	32.8%			
Toilets			50	2	100			55	1	55		-45	-45.0%			
Maintenance Shop and Storage			200	1	200			196	1	196		-4	-2.0%			
Building Storage								937	1	937		937	100.0%			
Building Trash			325	1	325			322	1	322		-3	-0.9%			
Building Recycling			325	1	325			325	1	325		0	0.0%			
Linen Main Storage			300	1	300			301	1	301		1	0.3%			
Laundry			300	1	300			314	1	314		14	4.7%	(4) ea washers & dryers		
Janitor Closet			25	1	25			50	1	50		25	100.0%			
Mechanical Electrical Plumbing																
Electrical Room			775	1	775			597	1	597		-178	-23.0%			
Building Electrical Distribution					0			149	1	149		149	100.0%	in B wing or ground level		
Data / IT/ Telecom			140	1	140			93.5	2	187		47	33.6%			
Main Mechanical Room			1680	1	1,680			1691	1	1,691		11	0.7%			
District Chilled Water					0											
Fire Pump Room					0			101	1	101		101	100.0%	with outside access		
Standpipe Risers					0									in stairwells		
Roof Top Air Units					0											
Elevator Equipment Room			120	1	120			57	2	114		-6				
					4,540					**5,671**		**1,131**	**24.9%**			
SUMMARY																
	NSF:				**146,576**					**141,940**						
(Walls, MEP Chases, Circulation, Elevators, & etc.)	**GRF:**				**1.53**					**1.54**						
	GSF:				**224,500**					**218,046**						
	# Beds:				**692**					**688**						
	GSF / Bed:				**324**					**317**						
	Net to Gross Efficiency %				**0.65**					**0.65**						

C. CODE ANALYSIS

C.1 Building Statistics & Code Classification

C.2 Building Occupancy Classification

C.3 Building Construction Type

C.4 Fire Resistance Requirements

C.5 Means of Egress

C.6 Fire Protection Systems

C.7 Plumbing Fixture Diagram

Code Analysis

C.1 Building Statistics

Building Height: 64' - 8"
No High Rise Requirements (under 75")

Flr Level	Use	Exist. GSF
1	Res. Hall support, Food Service Support, Storage, Mechanical, Offices, Assembly, Res. Hall	47,557
2	Res. Hall, Kitchen, Dining, Offices	50,559
3	Res. Hall	29,464
4	Res. Hall	29,464
5	Res. Hall	10,282
6	Res. Hall	10,282
7	Res. Hall	10,282
8	Res. Hall	10,282
TOTAL BUILDING:		198,172

Flr Levels	Wing A	Wing B	Wing C	Wing D	Level Total:
1	24,936	12,303	722	9,596	47,557
2	21,077	10,282	9,596	9,604	50,559
3	0	10,282	9,591	9,591	29,464
4	0	10,282	9,591	9,591	29,464
5	0	10,282	0	0	10,282
6	0	10,282	0	0	10,282
7	0	10,282	0	0	10,282
8	0	10,282	0	0	10,282
TOTAL:	46,013	84,277	29,500	38,382	198,172

Building Code Classification:
2006 International Building Code:

- Total gross area = 198,172 s.f.
- Total occupants = 2,831 persons.
- Wing A contains mixed Assembly (A-2 and A-3), Business and Storage occupancies and is two floors.
- Wing B is a Residential 8 story tower.
- Wing C is a Residential 3 story portion.
- Wing C is a Residential 4 story portion.

C.2 Building Occupancy Classification

Occupancy Classifications

The building is classified as mixed, non-separated R-2, A-2 and A-3 occupancies (Section 508.3.2) with non-separated S-2 mechanical and storage areas (Section 508.3.1).

Incidental use areas include storage, trash and laundry rooms that are greater than 100 s.f., per Table 508.2.

- Walls around these rooms are required to resist the passage of smoke.
- Dampers are not required with duct penetrations in these walls.
- Doors are required to be self-closing or close upon detection of smoke.

Occupancy separations are not required.

Occupancy Type

A-2	**Dining**
A-3	**Great Room, Classrooms**
B	**Business & Educational above 12th grade (304.1)**
R-2	**Dormitories**
S-2	**Storage**

Occupancy Code Reference:

303.1 A-2 Assembly uses intended for food and/or drink consumption including, but not limited to:

- Banquet halls
- Restaurants

303.1 A-3 Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

- Community halls
- Lecture halls

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts.
Business occupancies shall include, but not be limited to, the following:

- Educational occupancies for students above the 12th grade

- Training and skill development not within a school or academic program.

309.1 R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

- Apartment houses
- Dormitories

311.3 Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

- Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in non-plastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids.

C.3 Building Construction Type

Occupancy Groups **A-2, A-3, B** and **R-2** are unlimited in area per Table 503 in buildings of Type I-B construction. The **S-2** uses are limited to 79,000 s.f. tabular area. With increases for fire sprinklers in multi-story buildings (200%) the allowable area per floor is 237,000 s.f. The actual area is approximately 50,000 s.f. per floor. The total building area is approximately 198,172 s.f. Therefore ***the building meets the allowable areas of all uses and none of the uses are required to be separated***.

2006 International Building Code
Type I-B, Table 503 – Allowable Height and Building Areas

		TYPE I	
		A	B
GROUP	HGT (feet) HGT(S)	UL	160
A-1	S A	UL UL	5 UL
A-2	S A	UL UL	11 UL
A-3	S A	UL UL	11 UL
A-4	S A	UL UL	11 UL
A-5	S A	UL UL	UL UL
B	S A	UL UL	11 UL
R-2	S A	UL UL	11 UL
R-3	S A	UL UL	11 UL
R-4	S A	UL UL	11 UL
S-1	S A	UL UL	11 48,000
S-2[b,c]	S A	UL UL	11 79,000
U[c]	S A	UL UL	5 35,500

Table 601 Fire Resistance Rating Requirements for Building Elements

BUILDING ELEMENT	TYPE I	
	A	B
Structural frame[a]	3[b]	2[b]
Bearing walls		
Exterior[g]	3	2
Interior	3[b]	2[b]
Nonbearing walls and partitions Exterior		
Nonbearing walls and partitions Interior[h]	0	0
Floor construction Including supporting beams and joists	2	2
Roof construction Including supporting beams and joists	1 1/2[c]	1[c,d]

Existing Building Construction

Residence Hall Wings B, C and D

Floor structure	Concrete: two-way 8" flatplate slab
Vertical structure	Concrete Columns
Horizontal Structure	Grade Beams at ground level
Exterior Finish	Brick Veneer/CMU Block

Wing A

Floor structure	Slab on grade ground floor; two-way 8" concrete flatplate slab for mezzanine.
Vertical Structure	Concrete Columns
Horizontal Structure	Grade Beams at ground level
Exterior Finish	Brick Veneer/CMU Block

C.4 Fire Resistance Construction Requirements

Fire Resistance-Rated Construction

Chapter 7 of the 2006 IBC deals with fire resistive construction; the following is extracted from the code:

Mixed, non-separated R-2, A-2 and A-3 occupancies (Section 508.3.2) with non-separated S-2 mechanical and storage areas (Section 508.3.1).

Incidental use areas include storage, trash and laundry rooms that are greater than 100 s.f., per Table 508.2. Walls around these rooms are required to resist the passage of smoke.

Chapter 7 Code Reference:

Section 704: : Exterior wall are not required to be rated due to proximity to property lines.

Section 705: Fire walls are not required.

Section 706: Fire barriers are required for shaft enclosures and exit enclosures.

- Shafts are rated 2-hours when connecting four stories or more (Wings B and D);
- Shafts are rated 1-hour when connecting 3 stories or less (Wing C).
- Connections between only 2 floors do not require shafts (Wing A).

Section 708.1: Fire partitions are required when separating dwelling units in the same building, separating sleeping units, and for corridor walls.

Horizontal assemblies and supporting construction are required to be 2-hour fire-resistance rated in conformance with Section 711 and Table 601.

Opening protectives are required per Section 715 as follows:

- 2 hour fire barriers – 90 minute doors
- 1 hour fire barriers – 1 hour fire doors
- ½ hour fire partitions (corridor walls) – 1/3 hour fire doors.
- 1-hour fire partitions – ¾ hour fire doors.

Refer to **Table 715.4 Fire Door and Fire Shutter Fire Protection Ratings** from the 2006 International Building Code:

TABLE 715.4
FIRE DOOR AND FIRE SHUTTER FIRE PROTECTION RATINGS

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	4 3 2 1½	3 3[a] 1½ 1½
Fire barriers having a required fire-resistance rating of 1 hour:		
Shaft, exit enclosure and exit passageway walls	1	1
Other fire barriers	1	¾
Fire partitions:		
Corridor walls	1 0.5	⅓[b] ⅓[b]
Other fire partitions	1 0.5	¾ ⅓
Exterior walls	3 2 1	1½ 1½ ¾
Smoke barriers	1	⅓[b]

Elevator lobbies are not required to be enclosed per Section 707.14 when the building is less than 75 feet and is provided with a fire sprinkler system.

Only one exit is required from an elevator lobby area per Section 707.14.1 and Section 1015.1, based on occupant loads.

C.5 Means of Egress

Occupant loads based on Table 1004.1.1. See attached spreadsheet with calculated occupant loads and required plumbing fixtures.

Stairways are to conform to Section 1009 and 1020 of the 2006 International Building Code.

- Stairs connecting four stories (Wings A and D) or more are to be enclosed in 2-hour construction.
- Stairs connecting 3 stories (Wing C) are required to be enclosed in 1-hour construction.
- Stairs serving only the first and second stories of a building (Wing B) equipped throughout with an automatic sprinkler system are not required to be enclosed.

Stairs are required to exit to the exterior of the building per Section 1018.1. "Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge."

- The north stairs in Wings C and D need to extend to the exterior of the building with the same rating as the stairs (1 hr and 2 hr, respectively). The south stair in these two wings does not need to continue to the exterior, per Section 1024.1, as a maximum of 50% of the number and capacity of exit enclosures are permitted to egress through areas on the level of discharge.
- The stairs in Wing B are shown to extend to the outside with 2-hour ratings, however doors from unoccupied areas are not permitted to open into the exit enclosure. The fire pump and electrical distribution room opens into this enclosure. Alternative designs could include smoke detection in these spaces and in the exit enclosure, or an architectural redesign of this area.
- These stair extensions are all considered exit enclosure passageways in conformance with Section 1020.1.1 and 1021.

Exit access travel distance is limited to 250 feet per Table 1016.1. All spaces appear to be within this maximum limit.

Corridors in Residential wings are required to be ½ hour rated per Table 1017.1 with 20-minute fire-resistance rated doors.

C.6 Fire Protection Systems

Chapter 9 of the 2006 International Building code indicates that fire sprinkler systems are required throughout all wings of the building. It also indicates that a fire pump is required for the residential tower, Wing B.

- A 1-hour rated fire pump room is required per NFPA 20.
- A Class I manual standpipe system is required with 2-1/2" hose valves in conformance with NFPA 14.
- The sprinkler systems shall conform with NPFA 13.

Fire alarm systems are required in conformance with Section 907 and NFPA 72.

C.7 Plumbing Fixture Counts

Residential Tower B

Apartments	Occupancy Area		OLF		Quantity	beds	Floors	occupants	Total Occupants	Men/Wmn	MWC	Urinals	Mlav	WWC	Wlav	DF
1bed	R-2				2	1	1	2								
3 bed	R-2				3	3	1	9								
Dorm Rooms	R-2				24	2	7	336								
Lounge	R-2	400	15		1		7	186.6667								
Lounge	R-2	250	15		2		7	116.6667								
laundry	R-2	115	200		1		7	4.025								
Staff	R-2				4		7	28		341	34	9	34	34	34	7
									882							

Residential Tower C

Dorm Rooms	R-2				26	2	3	156.00								
Lounge	R-2	400	15		1		3	80.00								
Lounge	R-2	250	15		2		3	50.00								
laundry	R-2	115	200		1		3	4.03								
Staff	R-2				4		3	12.00		151	15	4	15	15	15	3
									302							

Residential Tower D

								0.00								
								0.00								
Dorm Rooms	R-2				26	2	4	208.00								
Lounge	R-2	400	15		1		4	106.67								
Lounge	R-2	250	15		2		4	66.67								
laundry	R-2	115	200		1		4	4.03								
Staff	R-2				4		4	16.00		201	20	5	20	20	20	4
									401							

Building A

First Floor:

									MWC	UR	ML	WWC	WL	DF
Offices	B	955	100	1	1	9.55		5	0.19	0.00	0.12	0.19	0.12	0.10
Kitchen	S-2/F-2	2400	200	1	1	12.00		6	0.06	0.00	0.06	0.06	0.06	0.01
Mechanical/Elect/Stor	S-2/F-2	2765	300	1	1	9.22		5	0.05	0.00	0.05	0.05	0.05	0.01
Maint/Housekeeping	S-2/F-2	1775	300	1	1	5.92		3	0.03	0.00	0.03	0.03	0.03	0.01
Dining	A-2	4875	15	1	1	325.00 *		163	2.17	0.00	0.81	2.17	0.81	0.65
Dining Private	A-2	525	15	1	1	35.00		18	0.23	0.00	0.09	0.23	0.09	0.07
Dining Private	A-2	300	15	2	1	40.00		20	0.27	0.00	0.10	0.27	0.10	0.08
Servery	A-2	2700	50	1	1	54.00		27	0.36	0.00	0.14	0.36	0.14	0.11
Rec Room	A-3	2000	15	1	1	133.33 *		67	0.53	0.00	0.33	1.03	0.33	0.27
		18295						0						
Max Dining Capacity	*A-2*					275.00		138	1.83	0.00	0.69	1.83	0.69	0.55
Patio Dining Occupants not added to load							889	450	6	0	2	6	2	2

Second Floor:

								MWC	UR	WL	WWC	WL	DF
Offices	B	955	100	1	1	9.55	5	0.19	0.00	0.12	0.19	0.12	0.10
Fireside Chat Room	B	300	15	1	1	20.00	10	0.40	0.00	0.25	0.40	0.25	0.20
Classrooms	A-3	1500	15	2	1	200.00	100	0.80	0.00	0.50	1.54	0.50	0.40
Comm Living Ctr	A-3	3000	15	1	1	200.00	100	0.80	0.00	0.50	1.54	0.50	0.40
Living Room	A-3	1500	15	1	1	100.00 *	50	0.40	0.00	0.25	0.77	0.25	0.20
Practice Rooms	B	330	20	1	1	16.50	8	0.33	0.00	0.21	0.33	0.21	0.17
		7585					648	273	3	0	2	5	2	1

2831

D. ARCHITECTURAL CONCEPT & SCHEMATIC DRAWINGS

D.1 Architectural Concept - Narrative

D.2 Schematic Design Drawings

Architectural Design Concept & Schematic Drawings

D.1 Architectural Design Concept

A Schematic Design charrette was conducted in Pomfret Hall on the University of Arkansas campus during the week of August 31 through September 4, 2009. Various stakeholders were asked to participate and contribute thoughts, ideas and experience with regard to how to best proceed with the renovation of Pomfret residence hall and to participate in making its transformation into the living quarters for the University's Honor College a success.

Four initial concepts were tested during the charrette and are described below:

CONNECTOR

This concept emphasizes the *linear connection* of the assumed front (East) entry to rear (West) entry. This axis is strengthened and punctuated in this concept. Secondary emphasis is placed on how the connector ties to residential wings C & D and the commons wing A; the connector axis to be delineated on exterior as well as interior.

CLOISTER

The cloister concept investigates the implications of enclosing the North end of the courtyard between residential wings C & D and connecting the building wings with an open canopy-type covering. A new addition at the north end, possibly the Community Learning Center, could anchor the complex and contribute a NEW architectural look for the existing building to follow; the interior private courtyard created by the enclosing of the space, adds valued outdoor community space for residents to share.

MAIN ENTRY

Although a goal of the project is to determine where the main building entry should be and to make it recognizable, this concept takes that premise a step further and creates a 'street presence' of the building center (wing A) which impacts the architectural significance of the building as a whole. In this scheme, the center wing becomes prominent in scale and appearance. A new entrance off Stadium Blvd. becomes emphasized architecturally and accessible to all residents.

GREAT HALL

This concept creates a GREAT HALL in what is now the 'great room' by moving the dining to the lower lever into the high-volume 2-story space with glass facing Stadium Drive. The food prep area would be transformed into a marketplace-style experience with freestanding stations that open up to the dining. The kitchen would be tucked in behind.

In its place on the upper level, a Community Learning Center and other student / administrative areas could benefit from the opportunity for natural daylighting via roof penetrations. The more public GREAT HALL allows for extended University activities while securing residential wings.

CONCEPT GOING FORWARD

The 'Great Hall' concept attempts to create a stimulating environment both visually and functionally that currently does not exist in the building. Flooded with natural light and centrally located between residential wings, it has the potential to become a hub of activity. All common functions of the building occur here, including the main building entry.

The lower level dining concept will also include the exterior courtyard and integrate exterior space into the activities of the building.

The upper level of A wing becomes the intellectual core with the addition of a new CLC to include computer stations, small study rooms, presentation areas, and flexible furniture; the space can be reconfigured to suit the particular need of the student. With Honors College administration, housing staff, and faculty offices, along with multi-purpose classrooms, the building becomes a functional living-learning facility.

Securing access to the residential wings will allow use of the common space for building and/or public functions.

SITE PLANNING CONCEPTS

Campus Master Plan shows the location of Pomfret Hall to be down-slope from the main academic center of campus, and adjacent to athletic facilities along Stadium Drive.

Key components in site planning for Pomfret Hall include:

- Placement of main building entry along and facing Stadium Drive;
- Creation of outdoor spaces with the opportunity for interactive synergies;

- Maximize opportunities created by sloping grades around and interacting with building;
- Ease appearance of roof elements as seen from upslope circulation paths;
- Consideration that all sides of building are visible to public;
- Perimeter location and high public profile demands aesthetic attention to building exterior and surrounding site;
- Honors College function demands public access, entry and parking for recruitment.

SITE DESIGN GOALS

Maintain parking on ends and at west side of building while enhancing building entries with vehicular access and drop-offs on west, south and east entrances;

North access to be maintained for occupants and potentially enclosed as private building-occupant recreational area.

Extend main building entry on the East out toward Stadium Drive and access via vertical lift at street.

Maintain access off parking on the West; add aesthetic appearance for visiting public.

Maintain pedestrian paths from parking to street on the North and enclose space between C and D wings at end for development of private courtyard.

Incorporate some staff parking; possibility for drop-off at entrance to B wing where residential apartments and future row houses are planned.

(Ref. Appendix, Section L, this document for a more complete record of design alternatives & charrette concept drawings).

D.2 Schematic Design Drawings

The following drawings have been developed from the GREAT HALL concept and include exterior elevation changes as well as building plans.

These schematic plans have been reviewed by the University Design Review Board and have been approved to proceed to the Design Development phase, pending approval by the University Housing and Facilities Management administration.

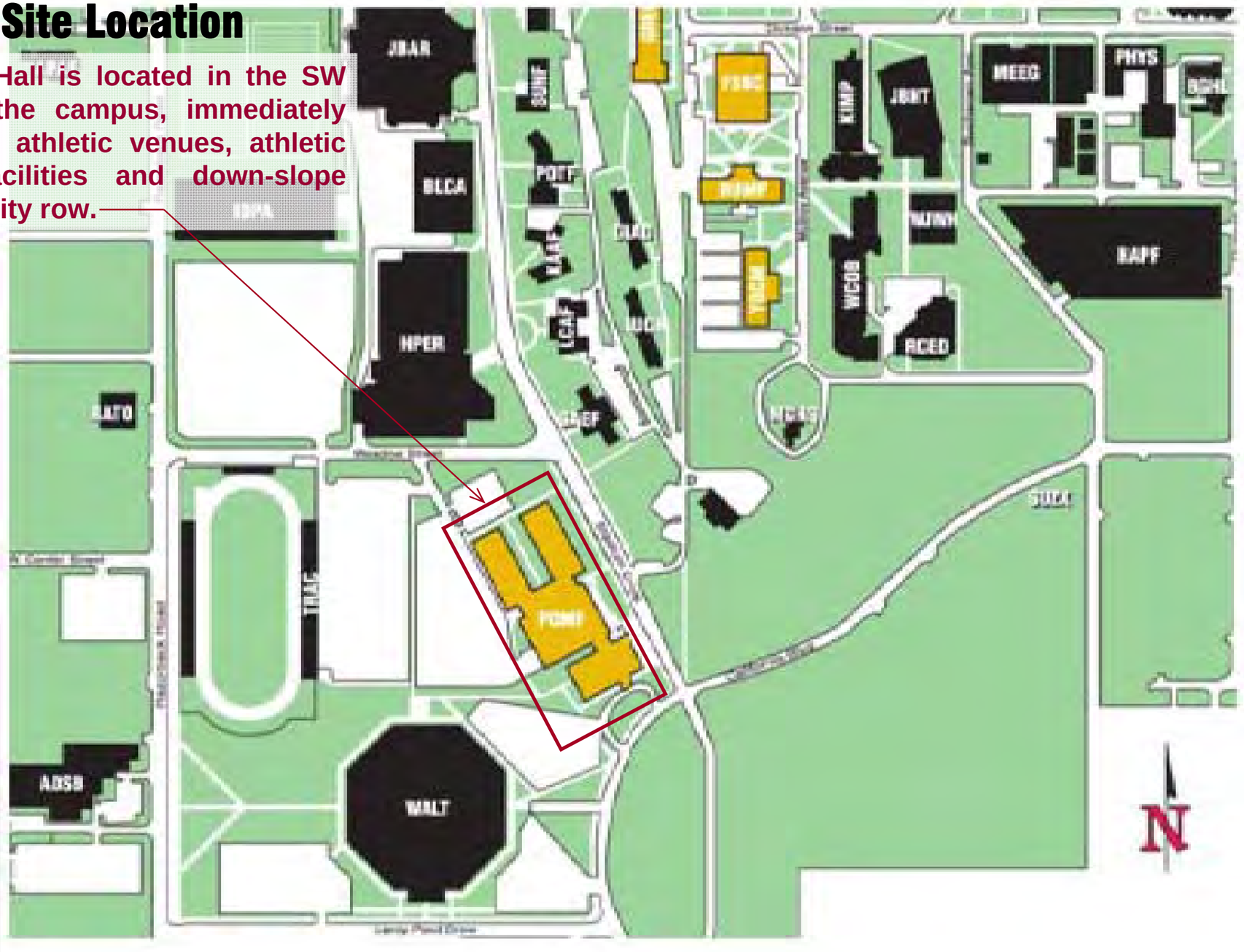
Site Plan Concept

Key components in site planning for Pomfret Hall include:

- Placement of **main building entry** along and facing Stadium Drive;
- Creation of outdoor spaces with the **opportunity for interactive synergies**;
- **Maximize opportunities** created by **sloping grades** around & interacting with building;
- Ease **appearance of roof elements** as seen from upslope circulation paths;
- Consideration that **all sides of building** are visible to public;
- Perimeter campus location and **high public profile** demands aesthetic attention to building exterior and surrounding site;
- Honors College function demands **public access, entry and parking** for recruitment.

Existing Site Location

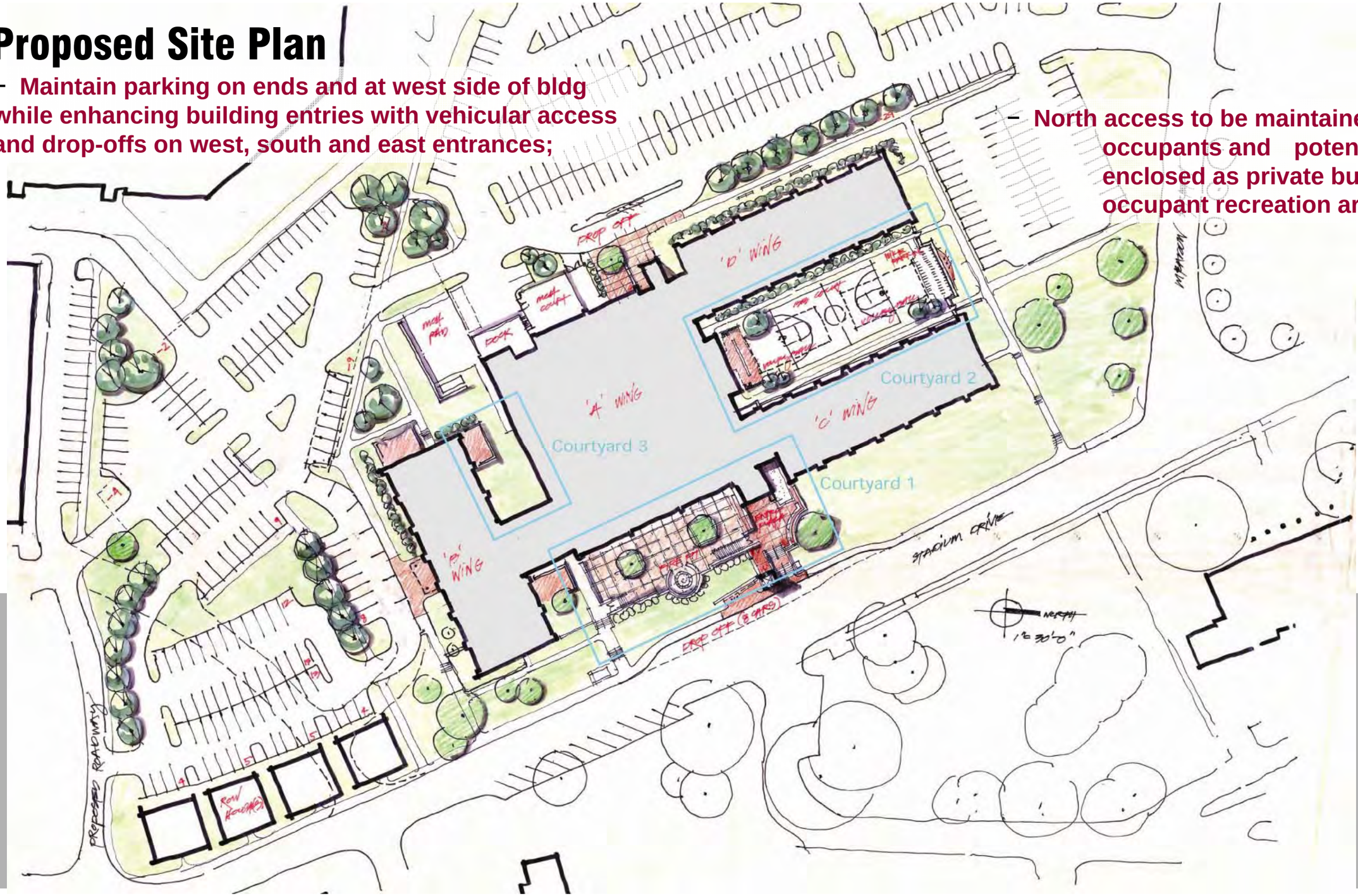
– Pomfret Hall is located in the SW corner of the campus, immediately adjacent to athletic venues, athletic practice facilities and down-slope from fraternity row.



Proposed Site Plan

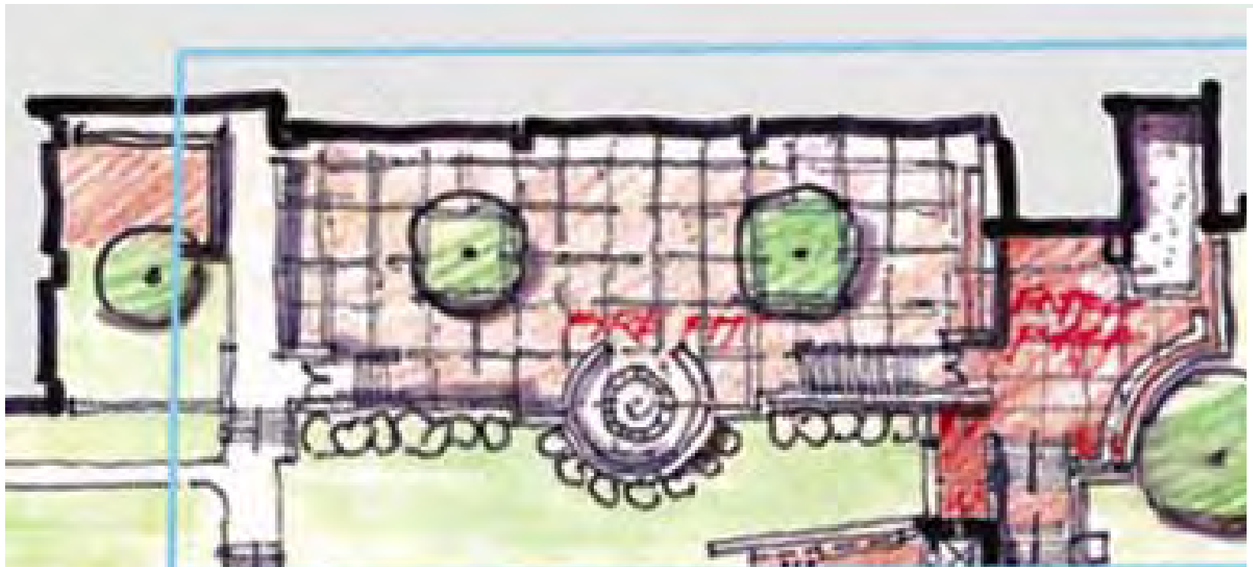
- Maintain parking on ends and at west side of bldg while enhancing building entries with vehicular access and drop-offs on west, south and east entrances;

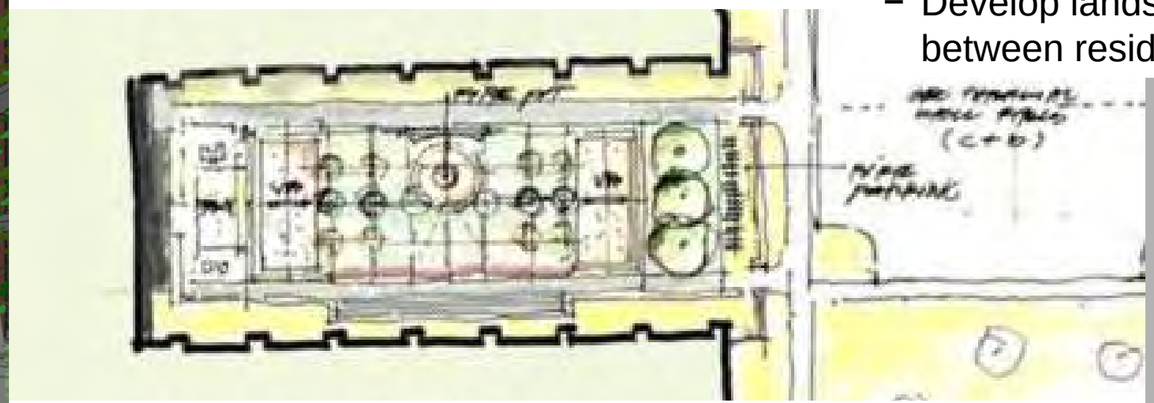
- North access to be maintained for occupants and potentially enclosed as private building occupant recreation area.



Proposed Courtyards & Entry Plan

- Develop landscaped courtyard outside Great Room for outdoor activities and overflow dining.



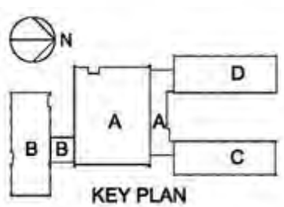


- Develop landscaped courtyard between residential wings C and D.

Existing Plan -- 1st Floor

Existing Plan – 2nd Floor

1 LEVEL TWO FLOOR PLAN
A1.2 SCALE 1/32"= 1'-0"

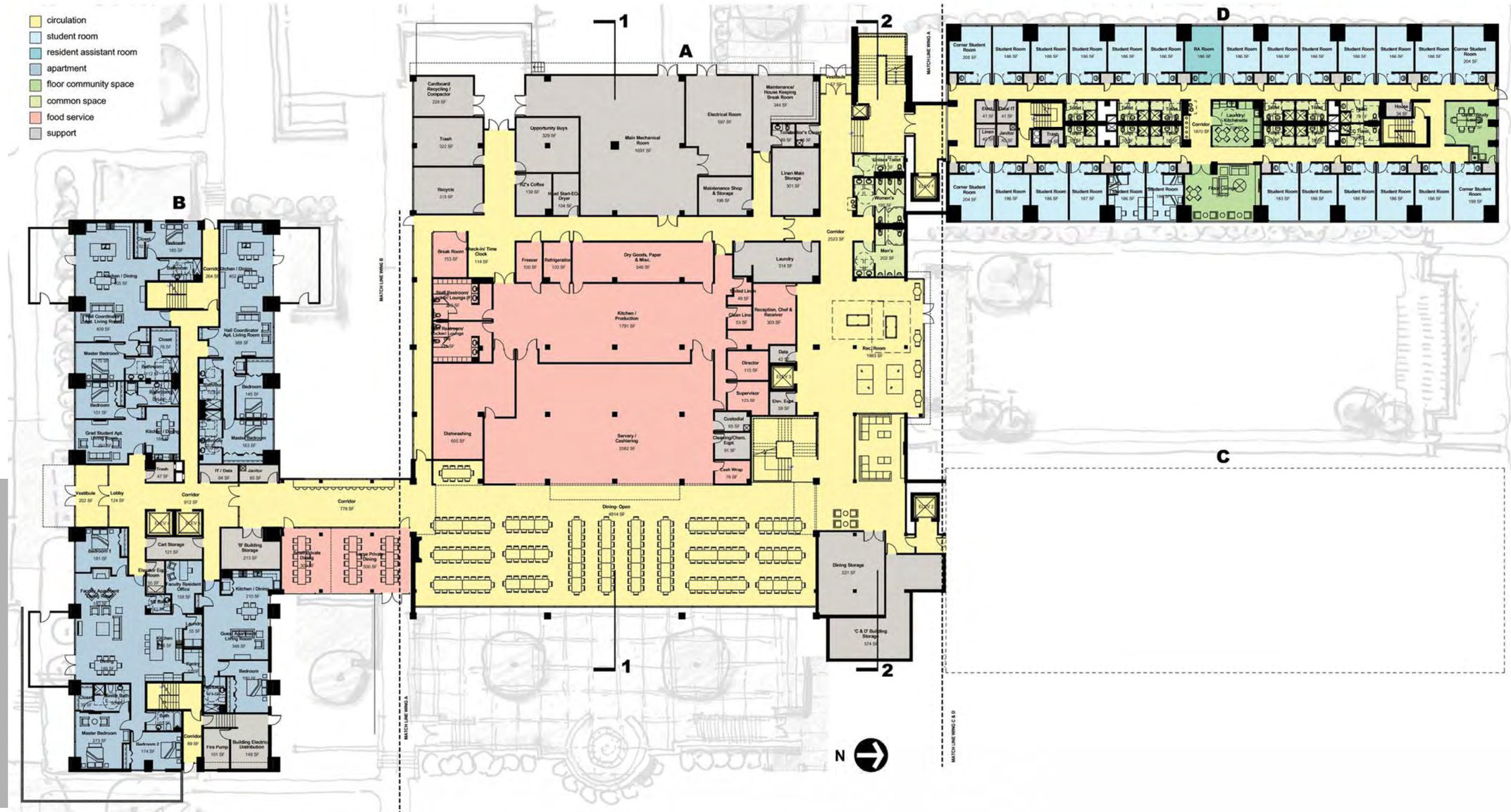


KEY PLAN

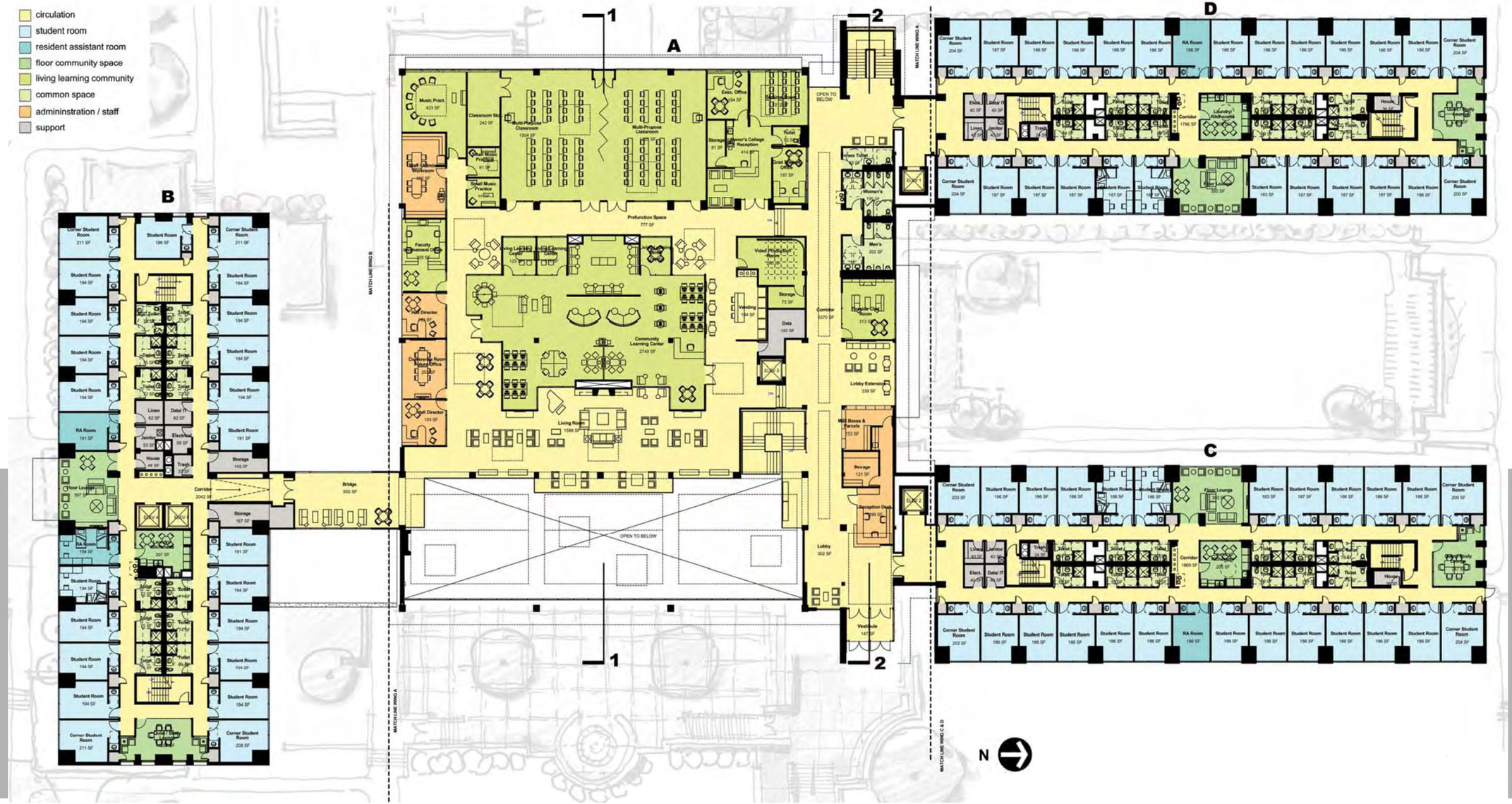
LEGEND

- TRADITIONAL STUDENT ROOM
- SEMI-SUITE
- RESIDENTIAL - SUITE
- RESIDENTIAL - APARTMENT
- COMMUNITY SPACES
- KITCHEN AREAS
- LIVING-LEARNING OVERLAY
- RESIDENTIAL LIFE OFFICE
- COMMON SPACES
- MECHANICAL & SUPPORT
- CIRCULATION

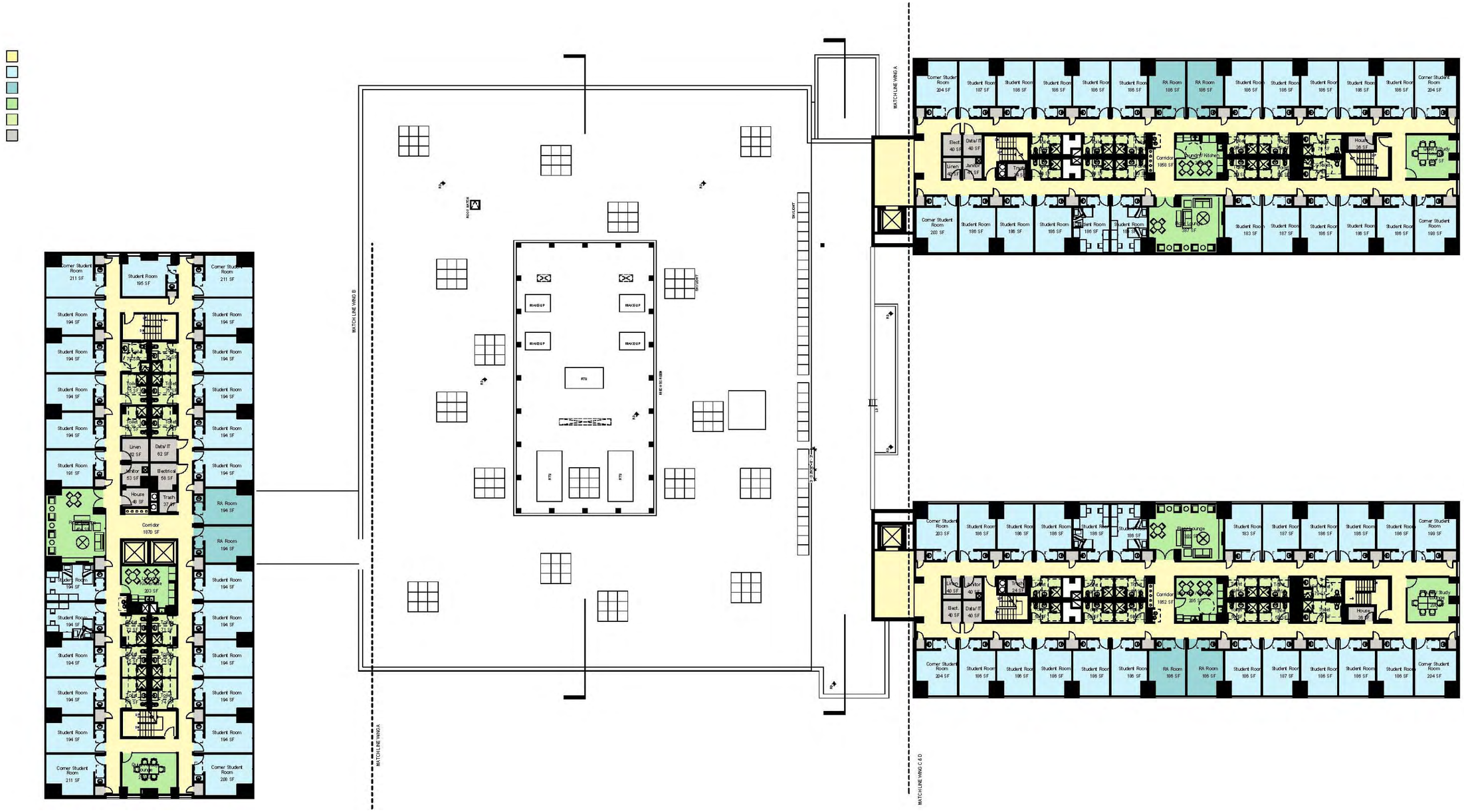
Schematic Design Plan -- 1st Floor



Schematic Design Plan – 2nd Floor



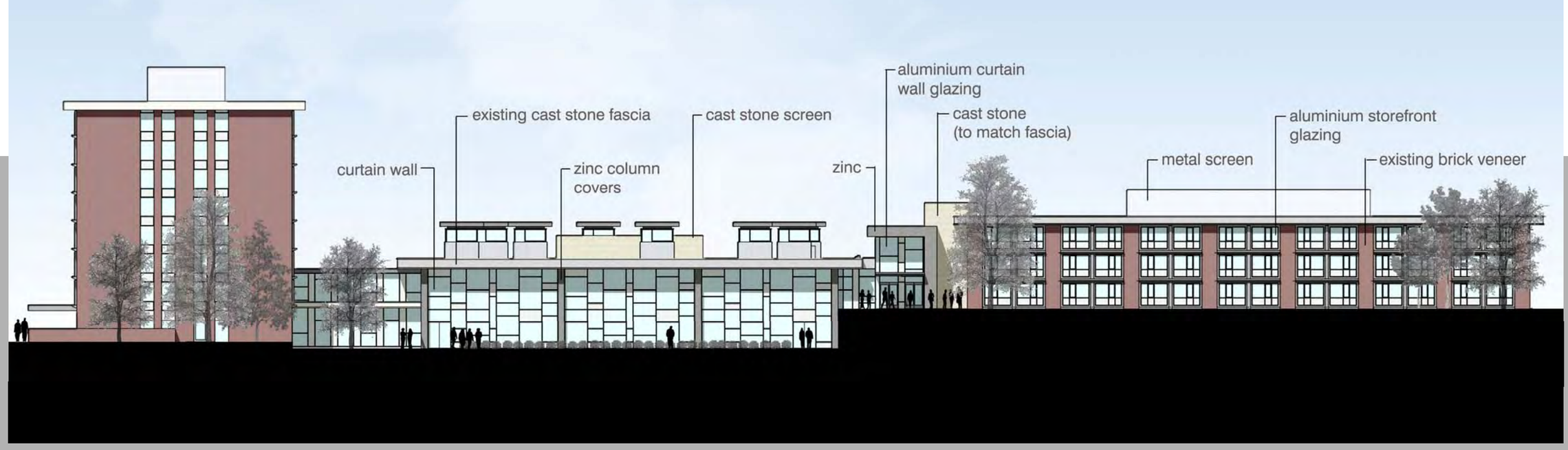
Schematic Design Plan – 3rd through 8th Floors



Building Exterior Elevation - EAST

Proposed Option

- Express columns of A-wing on exterior as existing;
- Random mullion pattern at front face glazing; use intermittent patterned/colored glass;
- Glazing entry and A/B connector; random texture on glazed front;
- Light monitors on roof capture natural light to bldg interior; tops reflective of architectural style;
- Use of natural materials; distinguish exterior material on A-wing from other parts of building;



Building Exterior Elevation - SOUTH

Proposed Option

- Retain ‘field’ of windows on Tower B;
- Mullion pattern same all residential elevation; create rhythm consistent with building structure;
- Sun shading on South elevation;
- Use of natural materials;
- A-wing transparency carried to South side;

Building Exterior Elevation - WEST

Proposed Option

- Express columns of A-wing on exterior as existing;
- Random mullion pattern at front face glazing; use intermittent patterned/colored glass;
- Light monitors on roof capture natural light to bldg interior; tops reflective of architectural style;
- Use of natural materials; distinguish exterior material on A-wing from other parts of building;

Building Exterior Elevation - NORTH

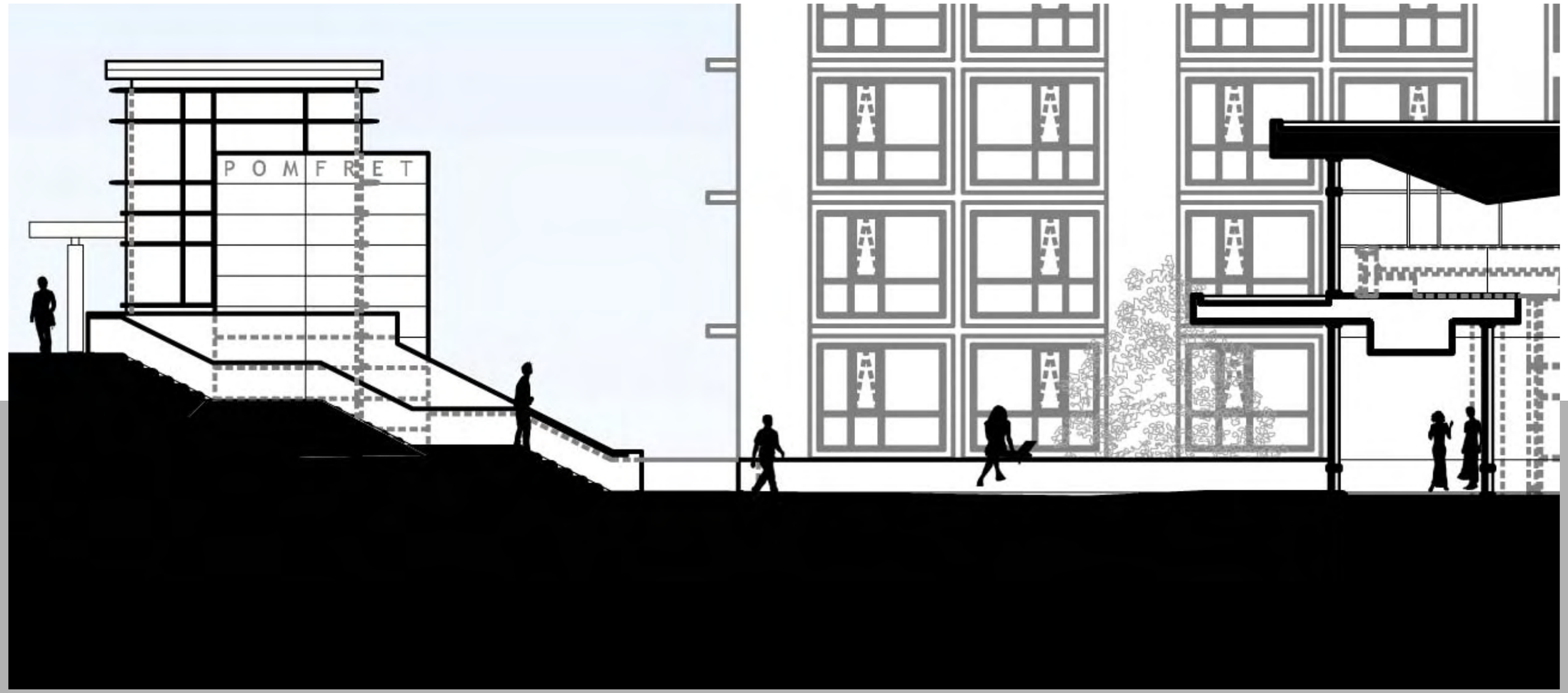
Proposed Option

- Entry pavilion architecturally tied to building with similar design style;
- Exterior material on A-wing distinguished from other parts of building;
- Use of natural materials in metals where feasible;
- Develop courtyard in area between C & D wings for student use;

Building Section - #1

Building Section - #2

Building Section - Thru Pavilion/ Entry



Front Entry - EAST

Front Entry - EAST

EAST Courtyard off Dining

EAST Entry from Above

Parking Entry - WEST

Courtyard between Wings C & D

Tower B from Southwest

Parking Entry - WEST

E. INTERIOR CONCEPT & IMAGES

E.1 Interior Concepts & Images

Interior Concepts

E.1 Interior Concepts and Images

Following are some concept images of how various spaces within the building might be finished and furnished in the GREAT HALL concept.

WING A holds the **PUBLIC** spaces in the building;

- Great Hall
- Dining
- Food Prep and Serving
- Community Learning Center
- Classrooms
- Offices for Honors College Staff
- Offices for Housing Staff
- Recreation Room
- Music Practice Rooms
- Video Production Room

WINGS B, C and D hold the **RESIDENTIAL** spaces in the building, which are more **PRIVATE** and secured.

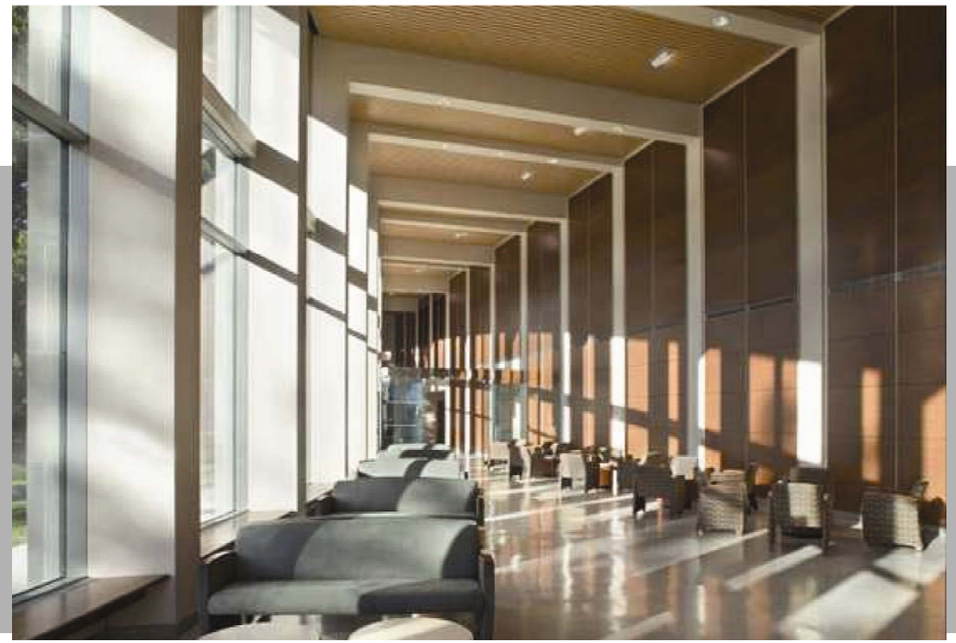
The following are images presented to the Steering Committee and approved as appropriate concept ideas and direction for interior spaces of the renovated Pomfret Hall with regard to style, material, color, and furnishings.

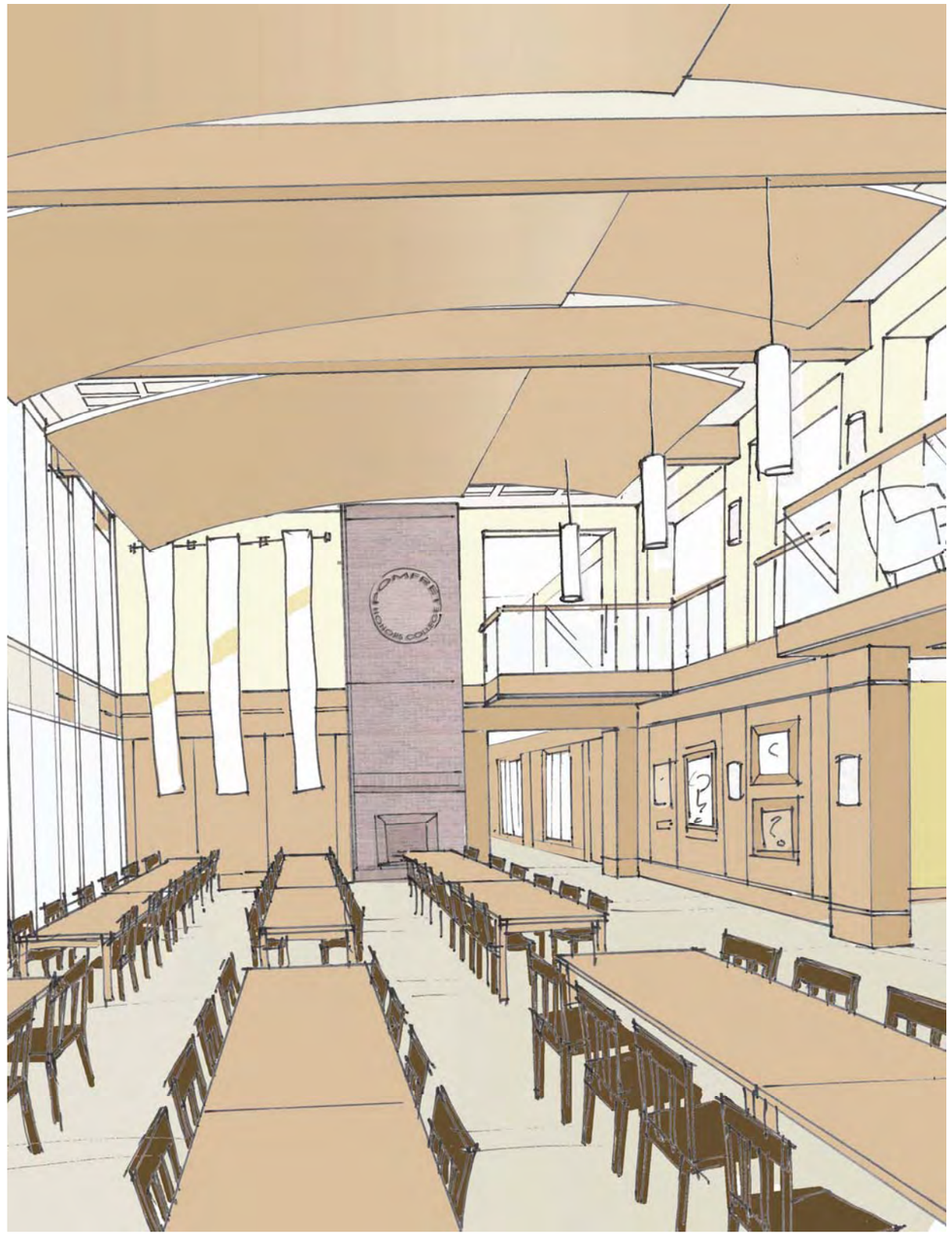
Interior Concept - Images

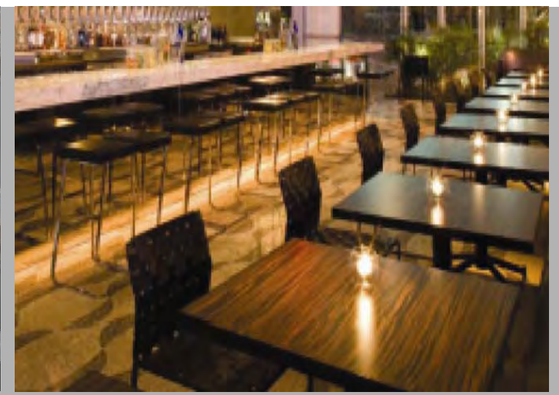
Maximize **openness**, visual connections & communication between spaces with more glazing and less solid enclosed spaces.

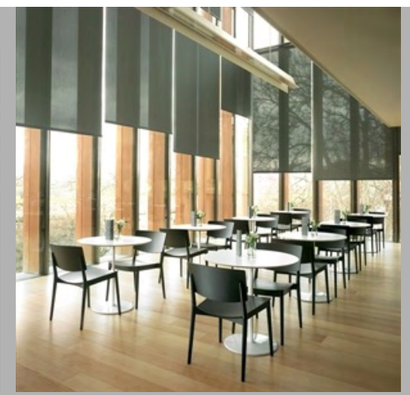
Unite Honors Community public spaces through use of materials and integrating of Tower identity accent colors.

Building A – Public









Building A – Dining



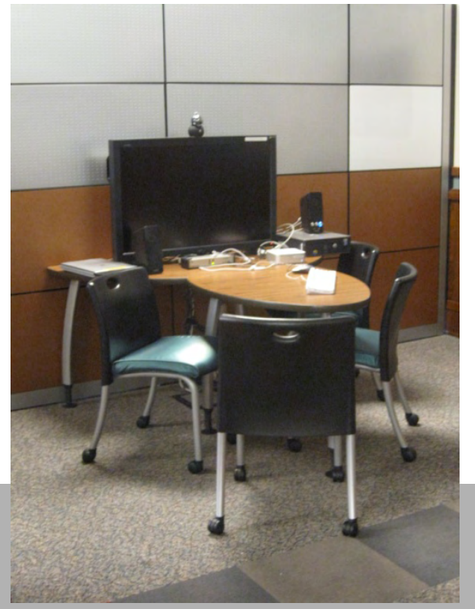


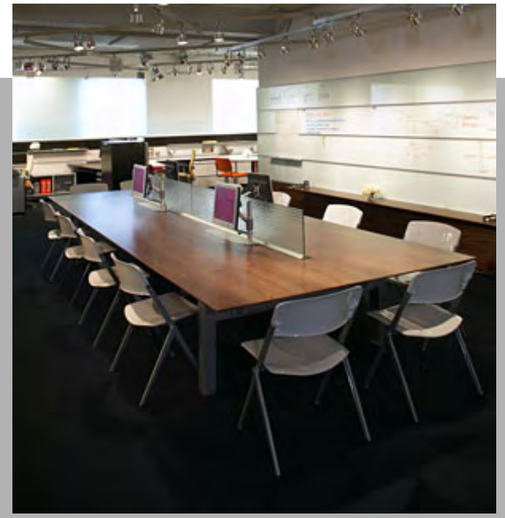


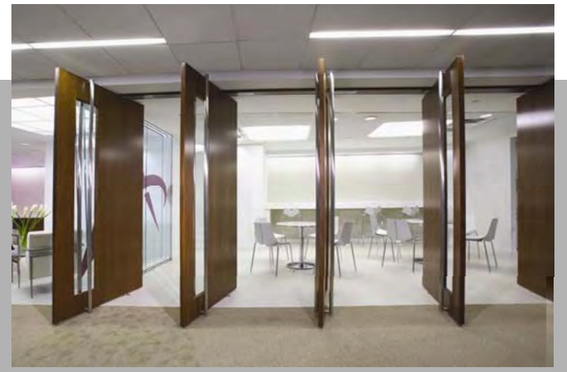





Building A – Lobby

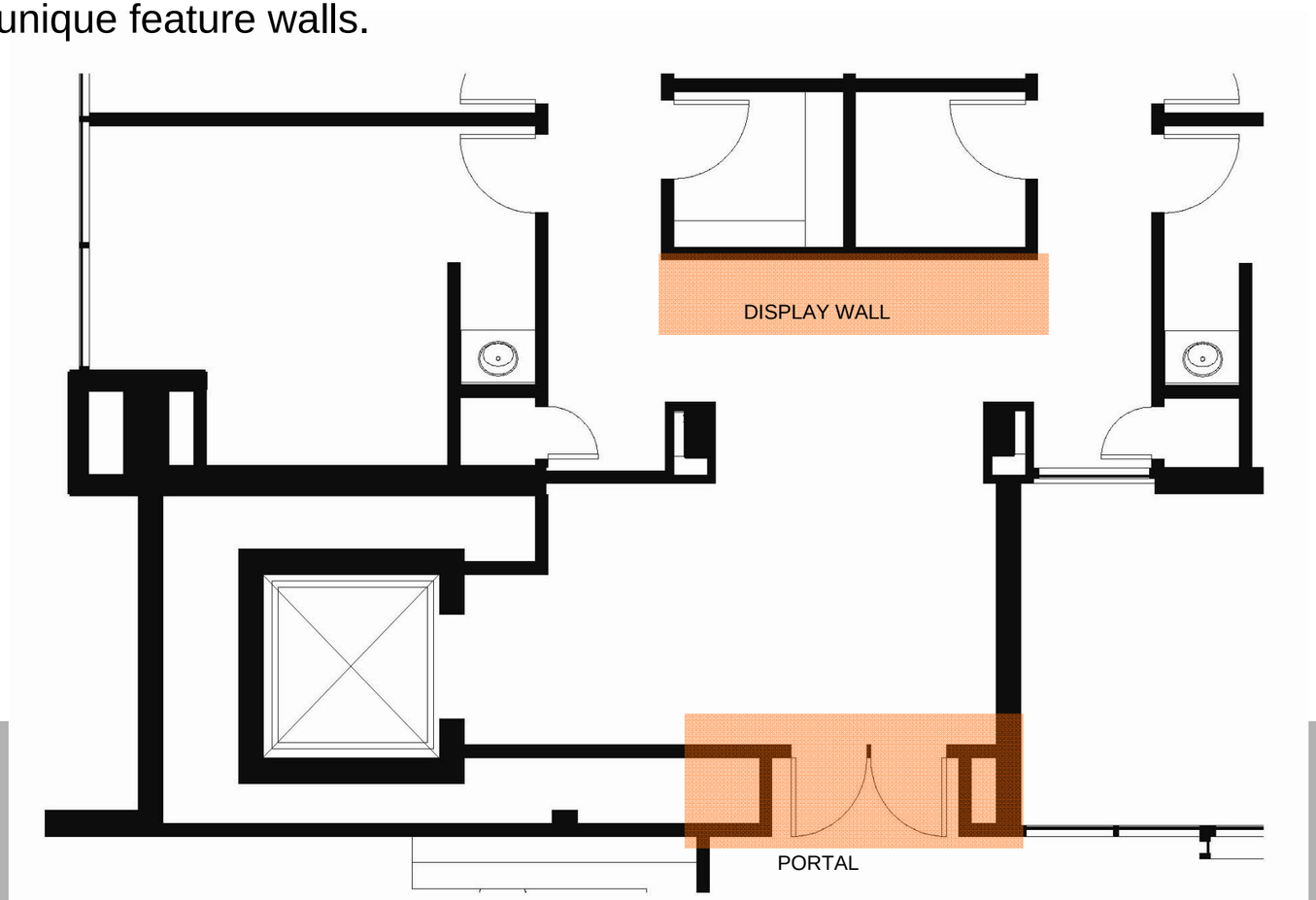


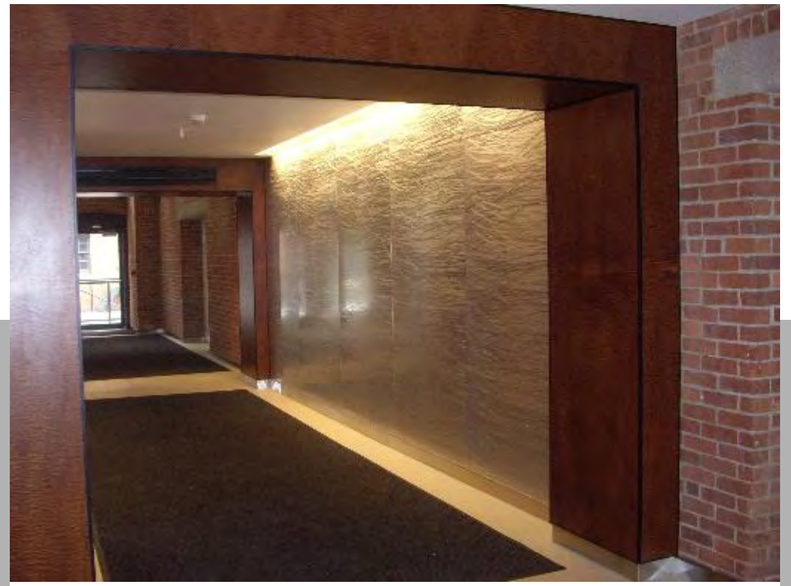




Building A – CLC

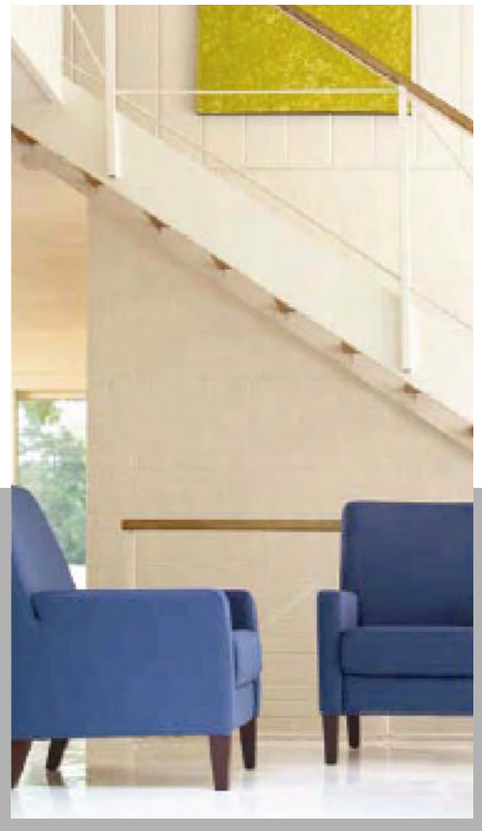
- Create & define **individual identities** for each Tower community through color and unique feature walls.



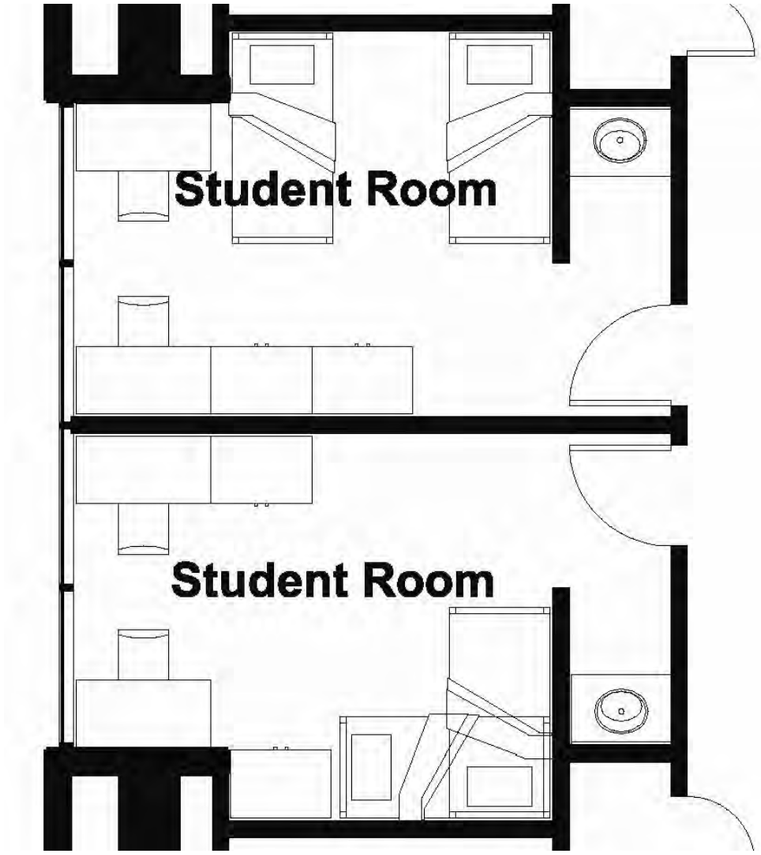


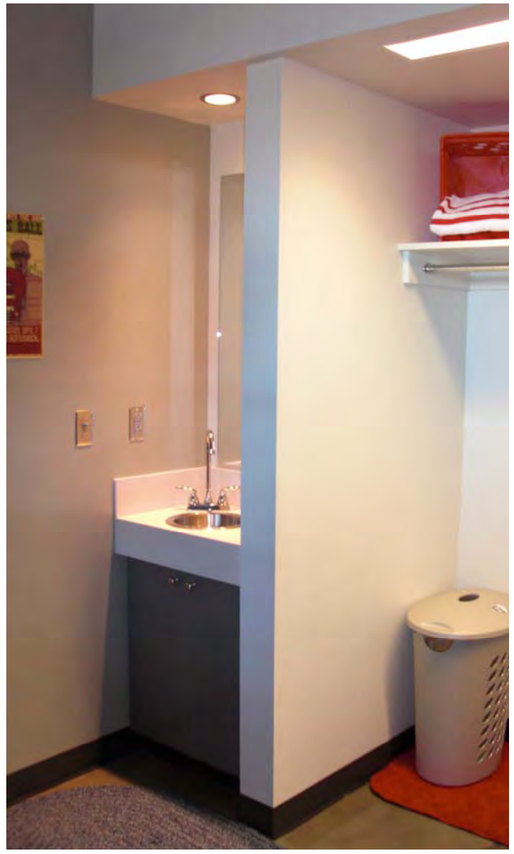
- Towers expressed as **private** through clearly defined portal thresholds and finishes.

Residential Communities



Residential – Community Spaces





- **Flexible**
- **Changeable**
- **Private**

Typical Student Bedrooms

F. STRUCTURAL SUMMARY

F.1 Structural Commentary

Structural Summary

F.1 Project Structural Comments

In general, the existing structure appears to be a well designed concrete frame, multi-story structure with two-way flat plate floors and roofs except for the roof of Wing A which is a two-way ribbed waffle slab. The floor and roof slabs appear to be 8" thick. The estimated load capacities of the floor and roof structures of the various areas were not calculated for this report, however, we are optimistic the structure will be determined to be adequate for use without significant structural modifications.

The structure was designed in 1966 and will likely not meet the current building code. However, that does not mean the building will not perform well or that an upgrade to current standards is necessary. Since a complete review of the structural systems has not been performed at this time, the structural engineer can only express a limited opinion that the building appears to be satisfactory for the proposed use without significant structural modifications.

Specific Issues:

Enlarge student rooms by enclosing existing sun screens:

Initial review of the structure indicates the cantilevered slabs are 8" thick and reinforced adequately to support new exterior masonry veneer and wall framing along with additional floor load on added area.

New Penthouses on roof of Wing A:

Ideally, the new columns supporting the roof of the new penthouses should be located directly above existing columns which would provide a footprint of approximately 24' by 16' for a penthouse. To keep the additional load from the penthouse to a minimum, structural engineering suggests utilizing a light steel frame with metal panel or siding exterior walls and metal roof. The penthouse could incorporate one wall of the elevator shaft if desired. Ideally, the new penthouse would be located somewhere between two interior column bays. The interior bays appear to be stronger with a higher likelihood of successful support of the penthouse floor loads without modification to the existing structure. If the existing roof structure proves inadequate to support the new mechanical penthouse floor loads, a new elevated structural floor for the penthouse may be needed.

Bridge between Wings C and D:

The structure of Area A (north side) is similar to the rest of the building with two-way, flat plate slabs and concrete columns for the floors and roof. The existing structure is not likely to be adequate to completely support a bridge structure spanning the approximately 78'-8" space between the two wings of Area E. However, the wings are likely adequate to support a portion of the bridge and provide lateral stability of a portion of the bridge if some intermediate supports are for the bridge are also provided. I do not have enough preliminary information for the bridge to adequately estimate loads at this time.

Additional other floors at top of Wings C, D and B:

The 8" roof slab of wing B (Grid 14 to 17) appears to be strong enough to support floor live loads if additional floors are to be added. The 12" x 12" columns also appear to be capable of supporting one floor load on the existing roof slab, one additional 8" floor slab and floor live load along with a new light (steel) roof system. The new steel columns would need to be located directly above the existing columns.

Currently, the structure of wing B is braced only by the moment strength of the columns. If additional floors are added to wing B, concrete shear walls will be needed to provide stability for the taller structure. At least two widely spaced shear walls would be needed running north/south. One or two shear walls running east/west would be needed depending on length of the shear walls and location. Shear walls may also be needed on the ground floor of wing B.

The new floors and new roof of wing B will also need to be braced with new concrete shear walls.

Please note that the roof of wing A extends about 8.5' over the existing low roof of wing B with only about 4.5' of clearance. The useful floor area above wing B could only extend about 3.5' south of grid 15.

The roof slab and columns of wings C and D (Grid 18 to 25) appear to be capable of supporting one additional floor load and the addition of a light framed (steel) roof system with steel columns located directly above the existing columns. However, review of the foundations would be required to determine the capacity of the footings.

If floors are added above the wings of C and D, the existing shear walls around the stairs will likely be insufficient to brace

the buildings. New concrete shear walls will likely be needed at all floors to adequately brace the new taller structure. The new shear walls will need to be supported by new footings.

Also, if floors are added above wings C and D, two additional 8" slab floors would be needed above wing B instead of just one, which has not been investigated. I am doubtful that wing B could support 2 new floor slabs, 3 new floor loads and one new roof system. More extensive evaluation would be required to investigate all options.

Lowering Floor of Great Room and other areas of Wing A:

No significant problems are obvious with regard to the proposition of lowering the floor of the Great Room in wing A except along Grid "U". Section 4/A18 indicates a 30" diameter duct buried 5" below the floor all along Grid "U". The top of the column footings along Grid "U" vary from 4'-2" below finish floor at Grid 14 to 5'-2" below FF at Grids 10 and 12. If the floor is lowered 2'-8", the new duct would need to be installed within the 2'-6" space remaining at Grids 10 and 12.

Green Roof on Wing A:

The exterior bays of the roof structure over Area "A" (Grid 8 to 10 and grid 12 to 14, along with Grid 10 to 12 from Grid B to F and from P to U) do not appear to have enough reserve strength to support the additional load of a green roof along with the dead and live loads normally anticipated for the structure. The capacity of the system is controlled by the shear strength of the beams near the columns and would not be easily strengthened to handle additional loads. The main roof beams do not contain shear reinforcing which significantly reduces the load carrying capacity of the system. Since there is very little redundancy in the beams of the roof of wing A, a shear failure of one of the beams would likely be catastrophic. It is therefore recommended that any green roof be eliminated from the bays around the perimeter of the building.

The interior bays of the roof structure over Area "A" appear to have a very limited amount of excess reserve strength to support approximately 15 to 20 psf of additional superimposed service live load for the green roof system. The area of interior bays extends from Grid 10 to 12 and from Grid F to P which would be about 50' x 90' in the center of the roof. A more extensive investigation of the structure would be required to gain full assurance, but it is possible this reduced area would be capable of supporting a green roof weighing 16 to 18 psf.

An evaluation of the footings of wing A could not be completed due to the absence of the geotechnical report on the original building.

Slab Penetrations thru the floor and roof for plumbing ducts:

The two-way, flat plate slab system utilized has reinforcing bars concentrated in strips running both ways over the columns. There are both column strips and middle strips running each way the full length and width of the building. The "column" strips running each way have varying width of approximately one half of the average width of the column bays each side, i.e. if the columns were spaced 24' apart each way, the columns strips would be 12' wide in each direction. Each column strip is centered over the columns so in this example, the columns strips would extend 6' each side of the columns in each direction and rum the full length and width of the building over all columns.

The areas between the columns strip are described as "middle strips" which are reinforced with less reinforcing than the column strips. Penetrations are most difficult within the areas near the columns where the column strips intersect. Penetrations are most easily accommodated where the middle strips intersect in the middle area between 4 columns. The areas where the column strips and middle strips cross (midway between two adjacent columns) is also somewhat difficult to penetrate but easier than near the columns. Any large opening should be kept with the intersections of middle strips. Small piping penetrations can usually be accommodated almost anywhere except within about 6 feet of a column.

Small Roof Top Equipment:

Structural engineering does not anticipate a problem with adding small roof top equipment to the building. If larger units are needed, mechanical frames may be needed to transfer the loads directly to the columns.

Summary:

Overall, the structure appears to be very strong and well designed with the exception of the lack of shear reinforcing in the roof beams of wing A mentioned previously. The structure was designed before current seismic provisions were added to the code so I will be very surprised if the existing building meets the current building code requirements with respect to seismic design. The code allows continued use of the building without meeting all provisions of the current code unless renovations and alterations go beyond a certain threshold.

Two such triggers would be (1) an increase in loads on the building by more than 5% and/or (2) the addition of floors to the structure which would increase the building height. If additional floors are added, all areas affected would need to meet the current code structural requirements which would likely include but not be limited to adding shear walls, strengthening columns and enlarging footings. The addition of the green roof within the area described previously would not likely require a Seismic upgrade of the structure.

Without a geotechnical report of records of the installation of the footings to determine bearing strata, comments on the suitability of the existing foundations to support additional loads would be premature. University files should be checked to see if this is available by Grubbs, Hoskyn Barton and Wyatt.

G. MEP & FP DESCRIPTION

Mechanical, Electrical, Plumbing & Fire Protection Systems

G.1 General Information

Scope of Work:

The project provides complete renovation of the Pomfret Hall housing (Wings A, B, C and D). This project will be completed in phases. Refer to phasing plan for details.
Wing A will be the common spaces and food service area. Wings B, C, & D will be residence halls.

Design Intent - General:

The intent of the proposed design of the mechanical, electrical, and plumbing and Fire Protection (MEPFP) Systems described in this document is to comply with the performance goals listed below:

- Energy Conservation: In addition to compliance with the requirements of ASHRAE Standard 90.1 2007 and the Arkansas Energy Code, the project design should demonstrate good behavior in regards to stewardship of natural resources (water, gas, electricity, etc.) to the private sector. As a minimum, the projected energy utilization of the facility should not exceed 80% of the baseline energy utilization indicated in ASHRAE 90.1 2007

- Thermal Comfort: Recognizing that the facility will compete with other private sector facilities, the project design should provide superior thermal comfort. Achieving thermal comfort will require diligence in the design and construction of the facility envelope (minimizing cold services, drafts, condensation, roof leaks, etc.) and HVAC system (controlling temperature, relative humidity, air motion, infiltration, etc.). As a minimum the project design should comply with the thermal comfort standards outlined in Latest ASHRAE Standard 55 – Thermal Comfort.

- Indoor Air Quality: Recognizing that an acceptable indoor air quality will increase health and enhance the learning environment, the project design should provide superior control and reduction of airborne contaminants (molds, mildew, dust, VOC's, particulates, etc.). As a minimum, the project design should comply with ASHRAE Standard 62 – 2007 Ventilation for Acceptable Indoor Air Quality.

- Safety / Security: Recognizing that the facility will serve a diverse population of young adults, the project design should provide a safe and secure environment. As a minimum, the project design should comply with all acceptable life / safety codes and regulations.

- Reliability: Recognizing that reliable MEP system performance is critical to customer satisfaction and retention, the project design should utilize equipment, materials, and systems that will perform in a reliable fashion. The design should include redundant and standby equipment to the extent possible.

- Maintainable: Recognizing that even superior systems and equipment will degenerate over time absent adequate maintenance, the project design should utilize materials, equipment, and systems that require minimal scheduled maintenance. The project design should also include features that permit remote (via the telephone, intranet, or internet) diagnosis and correction of maintenance problems for central equipment such as pumps and boilers. The project design should also utilize equipment, materials, and systems for which local service is available.

- Affordable: Recognizing that the cost of the facility is critical to economic viability in a competitive market, the project design must be affordable. The construction cost of the MEP systems cannot substantially exceed the cost of the MEP systems in competitive facilities.

- Cost-Effectiveness: Recognizing that the facility must be cost-effective in its use of both natural and financial resources, the project design should be structured in a manner that minimizes the total life cycle cost of the facility (with due consideration of all costs including construction, maintenance, repair, operation, and energy).

Energy Conservation:

The proposed design includes numerous energy conservation features including those listed below:

- Exhaust Air Energy Recovery: Energy recovery units will be used to recover both sensible and latent (water vapor) energy from the exhaust air. The use of energy recovery units reduces the peak facility cooling and heating loads by more than 15 %.

- High Efficacy Lighting: The lighting system will include high efficacy (lumens per watt) fluorescent, compact fluorescent, and LED light fixtures and lamps. Low efficacy quart halogen and incandescent lamps will not be used.

- Variable Volume Chilled Water System: The chilled water system will be of the variable volume type (the amount of water that is circulated will be reduced at part load). The use of a variable volume system will reduce chilled water energy consumption from 3 to 5 % due to reduced pumping energy (both the energy required to pump the water and the energy required to remove the pump heat from the chilled water). The chilled water meter should be purchased using the UAF IDIQ contract. The chilled water pump should be of the variable speed type. It should also be equipped with a bypass such that the pump does not operate when the system differential pressure is high enough. This is a UAF standard. The chilled water RUF is $1500 per ton. The chilled water RUF is based upon the capacity of the chilled water pump.

- Variable Volume Heating Water System: The heating water system will be of the variable volume type. The use of a variable volume system will reduce heating water energy consumption by 2 to 3%. The heating water system shall include steam converters. The steam meter should be purchased using the UAF IDIQ contract. The steam Remote Utility Fee (RUF) is $25 per pound per hour. The steam RUF is based upon the capacity of the pressure regulating valve.

- Energy Management System: The automatic temperature controls for the project shall be purchased from Johnson Controls, Inc. (JCI) using the UAF IDIQ contract. The controls for the fan coil units shall be Direct Digital Control (DDC). The advantage of DDC controls is that the operation of the fan coil units can be remotely monitored. The controls for the fan coil units could be shipped to the factory for installation. Factory installation of the controls can achieve significant cost savings.

- Independent Ventilation System: Ventilation air for the residence buildings will be provided using an independent ventilation system with energy recovery wheel. The Ventilation air (Conditioned Air) is supplied to each floor at the corridor.

- Thermal Comfort: The proposed design will yield a comfortable environment (superior to the minimum requirements of ASHRAE Standard 55 – Thermal Comfort) for the reasons listed below:

- Building Envelope: The use of a high performance building envelope (walls, roof, and windows) will reduce drafts and infiltration. The use of a high performance envelope will also reduce winter radiation heat loss from the occupants (the occupants will be comfortable at a lower space temperature).

Safety / Security:

The proposed project design will yield a safe and secure environment for the reasons listed below:

- Fire Alarm System: The facility will be protected by a fire alarm system including pull stations, smoke detectors, heat detectors, signaling devices, etc. A single station audible base smoke detector will be located in each bedroom and smoke detectors will be provided in the corridors. The fire Alarm system will be provided under the UAF IDIQ contract.

- Automatic Sprinkler System: The facility will be protected by a complete automatic sprinkler system.

- GFCI Receptacles: All exterior receptacles and receptacles near water sources (bathrooms) will be of the ground fault current interrupting type (GFCI).

- Emergency Lighting: Light fixtures for life safety egress lighting will be supplied through backup natural gas generator emergency power.

- Exit Lighting: All exits will be clearly marked using illuminated exit signs which will be connected to the backup generator.

- Fire Dampers: Fire dampers will be located at all duct penetrations of fire resistive rated partitions in accordance with the Arkansas Fire Prevention Code and the Arkansas Mechanical Code.

- ARC Fault Circuit Interrupters: All resident apartments equipped with kitchens will be protected by ARC fault circuit interrupter type circuit breakers.

- Surge Protective Device at Main Distribution Panel: A Surge Protective Device (SPD) will be installed at the main distribution panel. The SPD will provide the electrical system enhanced protection from power anomalies (brown-outs, surges, spikes, etc.).

Reliable:

The proposed project design will yield reliable performance for the reasons listed below:

- Chilled Water System Redundancy: The chilled water is provided by the Campus Central Chilled Water System which has full redundancy via multiple chillers.
- The Heating system Redundancy: The steam is provided by the Campus Central Steam System to each building which has full redundancy.

- The Geothermal system will be provided with redundant pumps.

Maintainable:

The proposed project design includes several features intended to simplify and reduce maintenance requirements. These features are as listed below:

- Energy Management System: The energy management system will allow remote problem diagnosis and corrections. The energy management system can also be used to record trend data.

- Equipment Access: All equipment will be located in a manner that is easily accessible.

- Self-Balancing Hydronic Systems: The chilled water and heating water distribution systems will be of the variable volume self-balancing type.

- Access Doors: The energy recovery units will be equipped with access doors in the fan sections. All piping valves will be located behind access doors.

- Fire Alarm System: The fire alarm system will be of the intelligent, addressable type. The use of an intelligent, addressable system will allow remote testing of devices. In the event of an alarm condition, the addressable system will identify the specific device that is in alarm.

- Remote Power (Electrical) Metering: Metering using the existing campus metering system.

Commissioning:

Commissioning will be provided by independent Third party through UAF. The Contractors shall coordinate all Commissioning tasks per construction documents and specification.

Applicable Codes and Regulations:

The project will be subject to the following codes and regulations:

- Arkansas Fire Prevention Code (2000 International Building Code and 2000 International Fire Code with Arkansas amendments)
- Arkansas Plumbing Code (2006 International Plumbing Code with Arkansas amendments)
- Arkansas Mechanical Code (2003 International Mechanical Code with Arkansas amendments)
- Arkansas Gas Code
- Arkansas Boiler Code
- Arkansas Energy Code (2006 International Energy Conservation Code with Arkansas amendments)
- National Electric Code 2008
- City of Fayetteville Local Codes
- UAF Construction Guidelines

The critical code issues associated with the project involve fire protection. The facility will be fully protected by an automatic sprinkler fire protection system. The facility will be designed such that standpipes are required (more than 30 feet exist from the highest occupiable floor to the lowest level of fire department vehicle access). A fire pump will be required in order to meet the pressure requirements of the standpipe systems. The Fire pump will be located in a new fire pump room in Wing B and the main pipe will be extended to Wings A and C and D.

General Specification Requirements:

The Contractor will comply with the general specification requirements listed below:

- The Contractor shall submit product information documents including performance data, specifications, dimensions, and shop drawings to the Architect and Engineer for review and approval.

- The Contractor will warrant the work to be free of defects for a period of one (1) year after the Date of Substantial Completion.

- During the progress of the work, the Contractor will record all changes in the work. At the completion of the work, the Contractor will provide the Owner with a complete set of Record Drawings.

- The Contractor will provide two (2) sets of operating and maintenance manuals to the Owner.

- All exposed piping will be identified using stenciled labels and flow arrows.

- All equipment will be identified using nameplates.

- The Contractor will provide typed directories in all panelboards.

- The Contractor will label each circuit on junction boxes and receptacles (panel numbers and circuit numbers).

G.2 MEP Space Requirements

The University of Arkansas has approximately 2000 honor students, half of which are on scholarship; there are approx. 400 honor students residing in Pomfret. University-wide, retention is approx. 52%.

Mechanical Rooms:

A central mechanical room will be located on the first floor of Wing A and will house the Chilled water system, Heating water system, and future Geothermal pumps and piping of each Building. The room will have an exterior exposure with a pair of outward swinging 4' doors opening to the exterior (for equipment access). A blower coil unit will condition (heat and cool) the room.

See mechanical Drawings for the location of all HVAC and Plumbing equipment. The Main Mechanical Room will house the following equipment:

- Steam domestic water heater(s)
- Re-circulating pump(s)
- Expansion tank
- District cooling water piping entrance
- District Steam piping entrance.
- Steam Pressure reducing station
- Steam to water Shell and Tube Heating water converters
- Heating water pumps, HWP-1 and HWP-2
- Chilled water pumps, CHP-1 and CHP-2
- Geothermal Pumps and main piping.
- Domestic cold water service including RPZ backflow preventer.
- Irrigation water service including RPZ backflow preventer and separate water meter.
- Water softener system

- Facility DDC control panel
- Field equipment panel
- Motor starters
- Variable frequency drives VFD-CHP-1 and VFD-CHP-2
- Variable frequency drives VFD-HWP-1 and VFD-HWP-2
- Variable frequency drives VFD for Geothermal Pumps
- Chilled water flow meters
- Steam flow meter

Fire Pump Room:

A fire pump room will be located at the east end of Wing B, on the first floor. The fire pump will immediately serve Wing A, and will serve Wings B, C and D upon completion of later phases. The fire pump room will have an exterior exposure and its interior dimensions shall not be less than 12'- 7" x 11'- 6". The room shall be conditioned to maintain a minimum of 40°F and a maximum of 90°F. The room will have a single door and the door shall open to the exterior. The walls of the room shall have a minimum 1-hour fire rating and will be acoustically treated if required (depends on the sound sensitivity of the adjacent spaces). The room will house the following equipment (See attached sketches):

- Fire protection backflow preventer assembly; 8" DDCA type
- Vertical in-line fire pump, 1,000 GPM rating, with electric driver
- Low suction control valve
- Jockey pump
- Fire pump controller cabinet
- Jockey pump controller cabinet
- Fire pump test header
- 8" main fire protection water service entrance
- 6" fire department connection service

Electrical Rooms:

The main electrical room will be located on the first floor of Wing A. An emergency power electrical room will be located adjacent to the main electrical room. The first floor of Wing A will be served by distribution panels located in the main electrical room. A two (2) hour fire resistive rating is recommended to avoid needing to be sprinkled. The room will have an exterior exposure. A fan coil unit will condition (heat and cool) the room. The room will have a double door opening to the exterior (for equipment access). The walls of the room will be acoustically treated if required (depends on the sound sensitivity of the adjacent spaces). The room will house the following equipment (See attached sketches):

- Facility main electrical switchboard (208Y120V)
- Distribution electrical panels (208Y120V)
- Lighting panel (208Y120V)
- Mechanical equipment panel (208Y120V)
- Lighting control panel
- Facility fire alarm panel
- Fan coil unit

The dimensions of the main electrical room will be 11 feet by 20 feet.

The emergency electrical room will be located on the first floor of Wing A adjacent to the main electrical room. A two (2) hour fire resistive rating is recommended to avoid needing the area to be sprinkled. A fan coil unit will condition (heat and cool) the room. The room will have a double door opening to the mechanical room (for equipment access). The walls of the room will be acoustically treated if required (depends on the sound sensitivity of the adjacent spaces). The emergency electrical room will house the following equipment (See attached sketches):

- Emergency power electrical switchboard with separate vertical section for life safety power (208Y120V)
- Automatic transfer switches
- Emergency power branch panels (208Y120V)
- Fan coil unit

The dimensions of the emergency electrical room will be 10 feet by 20 feet.

An electrical closet located on the second floor will serve the second floor of Wing A. Stacked electrical closets located on each floor will serve each floor of Wings B, C and D with the exception of the first floor of Wing B. This branch electrical room will not be stacked and will be larger in size. Residence apartments located on the 1st floor of Wing B will be served by local load centers fed from the electrical room on the first floor of Wing B. A two (2) hour fire resistive rating for each closet is recommended to avoid needing the area to be sprinkled. A dedicated fan coil unit will condition (cool) each closet. The branch electrical closets will have a 3'-0" door which opens outward to the main corridor. The branch electrical closets will house the following equipment (See attached sketches):

- Distribution electrical panel (208Y120V)
- Lighting and equipment panel (208Y120V)
- Life Safety power panel (208Y120V)
- Fire alarm sub-panel / node
- Lighting control panel
- Fan coil unit

The electrical closet sizes will be approximately 6.5 feet by 6 feet. The dimensions of the electrical room located on the first floor of Wing B will be 17 feet by 8 feet.

Telephone / IT / CATV Rooms:

The main telephone / IT / CATV room will be located on the first floor of Wing A adjacent to the emergency electrical room. A two (2) hour fire resistive rating is recommended to avoid needing the area to be sprinkled. A dedicated fan coil unit will condition (cool) the room. The room will have a double door opening to an adjacent corridor (for equipment access). The room will house the following equipment (See attached sketches):

- Telephone terminal board
- CATV terminal board
- Data equipment

- Floor mounted data racks
- Fan coil unit
- Master telecommunications ground bar

The dimensions of the Telephone/IT/CATV room will be 8.5 feet by 16.5 feet.

The exact dimensions of the facility telephone / IT / CATV room will be as determined by UA telecommunications personnel.

A telephone / IT / CATV closet located on the second floor will serve the second floor of Wing A. Stacked telephone/IT/CATV closets located on each floor will serve each floor of Wings B, C and D with the exception of the first floor of Wing B. This telephone/IT/CATV room will not be stacked and will be larger in size. A two (2) hour fire resistive rating for each closet is recommended to avoid needing the area to be sprinkled. A dedicated fan coil unit will condition (cool) each closet. The branch telephone / IT / CATV closets will have a 3'-0" door which opens outward to the main corridor. The branch telephone / IT / CATV closet will house the following equipment (See attached sketches):

- Telephone terminal board
- CATV terminal board
- Data equipment
- Floor mounted data rack
- Fan coil unit

The telephone / IT / CATV closet sizes will be approximately 6.5 feet by 6 feet. The dimensions of the electrical room located on the first floor of Wing B will be 5 feet by 12 feet.

Miscellaneous Space Requirements:

Small electrical load centers (120Y/208V) will be located in each residence hall apartment unit located on the first floor of Wing B.

Chases for exhaust air, ventilation air, and piping will be located in each residence hall.

Dedicated fan coil units will condition the elevator machine rooms.

Sump pumps will be located in the elevator sumps. Remote containment barrels will collect sump discharge.

Exterior lights will be located on the site to match UAF Campus standard.

A landscape irrigation system will be located on the site.

Sanitary sewer manholes will be located on the site for each building.

Pad mounted service transformer

Pad mounted natural gas generator

Water meter point

Natural gas meter and PRV

G.3 Mechanical Systems

Design Conditions:

A central mechanical room will be located on the first floor of Wing A and will house the Chilled water system, Heating water system, and future Geothermal pumps and piping of each Building. The room will have an exterior exposure with a pair of outward swinging 4' doors opening to the exterior (for equipment access). A blower coil unit will condition (heat and cool) the room.

The **summer outdoor design** conditions for the apartment HVAC systems are as indicated below (ASHRAE 1.0 % Dry Bulb and Mean Coincident Wet Bulb):

- Outside Air Dry Bulb Temperature – 93º F
- Outside Air Wet Bulb Temperature – 75º F

The **summer outdoor design** conditions for the ventilation HVAC systems are as indicated below (ASHRAE 1.0 % Wet Bulb and Mean Coincident Dry Bulb):

- Outside Air Dry Bulb Temperature – 88.6º F
- Outside Air Wet Bulb Temperature – 77.2º F

The **winter outdoor design** conditions for the apartment and ventilation HVAC systems are as indicated below (ASHRAE 99.0 % Dry Bulb and Mean Coincident Wet Bulb):

- Outside Air Dry Bulb Temperature – 14º F
- Outside Air Wet Bulb Temperature – 12º F

The **indoor design** cooling dry bulb temperature conditions are as indicated below:

- Apartments – 75º F
- Mechanical Rooms – 85º F
- Electrical Rooms – 85º F
- Telephone / IT / CATV Rooms – 75º F
- Elevator Machine Room – 75º F

The indoor design heating dry bulb temperature conditions are as indicated below:

- Apartments – 70º F
- Mechanical Rooms – 60º F
- Electrical Rooms – 60º F
- Telephone / IT / CATV Rooms – 60º F
- Elevator Machine Room – 75º F

Chilled Water – UAF GC Standards:

The chilled water system will connect to the existing Campus district chilled water system. The main chilled water piping entering each housing building will be 8". The main building entrance piping will include Isolation valves at the mechanical room in the building and include flow meter.

The piping will include isolation valves, drain connection, manual air vent, pressure and temperature ports, thermometers, differential pressure switch, and pressure gauge.

The flow meter will be of the vortex shedding type. The flow meter will be installed in accordance with recommendations of the manufacturer (minimum straight distances upstream and downstream).

Branch chilled water piping will be routed to the fan coil units and the energy recovery units and Air handling units. The main chilled water piping will be routed above the ceiling in first floor and will feed the vertical risers in mechanical chases to the roof level for the Roof Top Air Handling units. Piping at each chilled water coil will include isolation valves, a strainer, drain connection, manual air vent, pressure and temperature test ports, and a 2-way chilled water control valve.

Pressure gauges and thermometers will have a range suitable for the application. Pressure gauges will be glycerin filled

The condensate drain connections at the energy recovery units and Air Handling Units will be trapped appropriately for a blow-through application and routed to the nearest floor drain or hub drain. The condensate drain connections at the fan coil units will be trapped appropriately for a draw-through application and routed to an air gap receptor in each unit. If fan coil units are located within the room served, auxiliary drain

pans will be installed below the horizontal fan coil units. Auxiliary drain piping will be routed from these pans to a conspicuous location (such that a leak is obvious).
We intend to locate all fan coil units serving electrical rooms, elevator machine rooms and telephone / IT / CATV rooms outside of these rooms whenever possible.

Chilled water piping 3" and larger will be Schedule 40 black steel with welded joints and fittings. Chilled water piping 2-1/2" and smaller will be Type "L" hard drawn copper with solder joint wrought copper tube fittings. Isolation valves in 4" and larger piping will be of the lug butterfly type with gear operators. Isolation valves in 3" piping will be of the gate type with non-rising stem. Isolation valves in 2-1/2" and small piping will be of the full port ball type.

Condensate drain piping and auxiliary drain piping will be Type "L" hard drawn copper with solder joint wrought copper fittings.
Acceptable manufacturers for chilled water equipment are as indicated in the table below:

Equipment	Acceptable Manufacturers
Pumps	Armstrong, TACO, and PACO
Relief Valve	Armstrong or approved equal
Isolation Valves	Nibco or approved equal
Pressure Gauges	Trerice or approved equal
Thermometers	Trerice or approved equal
Flow Meter	Fluidyne or approved equal
DP Transmitters	Rosemount or approved equal

Heating Water:

The heating water will be served via the existing district steam system access Steam to water shell and tube Heat Exchangers are provided to produce 180 F heating water. Provided with the heating water pumps will be a set of isolation valves, a pair of differential pressure transmitters, pressure gauges, thermometers, and a flow meter. The converters will be provided with 1/3, 2/3 steam valves for proper part load condition.
The main heating water piping will be 6". Branch heating water piping will be routed to the fan coil units and the energy recovery units and the air handling units. The piping at each heating water coil will include isolation valves, strainers, drain connection, manual air vent, pressure and temperature test ports, and 2-way heating water control valve.

Pressure gauges and thermometers will have a range suitable for the application. Pressure gauges will be glycerin filled.

Heating water piping 3" and larger will be Schedule 40 black steel with welded joints and fittings. Heating water piping 2-1/2" and smaller will be Type "L" hard drawn copper with solder joint wrought copper tube fittings.

Isolation valves in 4" and larger piping will be of the lug butterfly type with gear operators. Isolation valves in 3" piping will be of the gate type with non-rising stem. Isolation valves in 2-1/2" and small piping will be of the full port ball type. All valves will be installed in accessible locations.

Acceptable manufacturers for heating water equipment are as indicated in the table below:

Equipment	Acceptable Manufacturers
Heating Water Pumps	PACO, Armstrong, and TACO
Steam to water Converters	Armstrong, Taco
Pressure Regulating Valve	Armstrong or approved equal
Relief Valve	Armstrong or approved equal
Isolation Valves	Nibco or approved equal
Pressure Gauges	Trerice or approved equal
Thermometers	Trerice or approved equal
Flexible Pump Connectors	Keflex or approved equal
DP Transmitters	Rosemount or approved equal

Energy Recovery Units and Air Handling Units.

Energy recovery units and Air handling units will be located on roof for Wings B, C and D as well as Wing A dining facility. Energy recovery units will be of the modular double wall insulated (solid metal interior liner) type. Each energy recovery units and Air handling units will be equipped with the following components: motorized outside air damper, chilled water coil, heating water (run around coil) in outside and exhaust sections, motorized exhaust damper, ventilation filter, supply fan, exhaust fan, enthalpy wheel, and exhaust filter. All piping on the roof will be provided with freeze protection.

The outside air and exhaust dampers will be of the low leakage type with blade and edge seals. These dampers will be interlocked with their associated fan (the dampers will be open when the fans are in operation). The dampers will be normally closed (fail closed).

The ventilation filter will be of the pleated media type. The filter rating will be MERV 8 (35% ASHRAE dust spot efficiency). The filter will be furnished with a magnehelic air gauge. The filter section will have an access door.

The ventilation fans will be of the airfoil or plenum type. Each fan will be selected for 5000 CFM at a ESP static pressure of 1.75" w.g. The fans will be selected for low noise operation. The sound power levels by octave band will be scheduled.

The ventilation fans will typically be operated at all times. The fans will be started and stopped through a combination motor starter and disconnect switch. The ventilation fans will be automatically stopped in the event of an alarm condition (freezestat, fire alarm panel, or overload relay).

The exhaust fans will be of the airfoil or plenum type. Each fan will be selected for 2600 CFM at a External static pressure of 1.75" W.G. The fans will be selected for low noise operation. The sound power levels by octave band will be scheduled.

The exhaust fans will be interlocked with the supply fans. The fans will be started and stopped through a combination motor starter and disconnect switch. The ventilation and exhaust fan sections will be equipped with access doors. The fans will be internally isolated.

The enthalpy wheels will be of the desiccant type. The wheels will be 70 % effective (sensible and latent). The wheels will be operated whenever the outside air temperature is above 80º F or below 50º F.
The exhaust filter will be of the pleated media type. The filter rating will be MERV 8 (35 % ASHRAE dust spot efficiency). The filter will be furnished with a magnehelic air gauge. The filter section will have an access door.

Low velocity round or rectangular ductwork will be routed from the energy recovery units to the apartments.

Duct mounted smoke detectors will be located in the main ventilation air ducts.

Acceptable manufacturers of the energy recovery units include DesChamps, SEMCO and Venmar.

Geothermal Heat Pump Units for Wings B, C and D:

All residence units will be served by vertical Geothermal Heat Pump units Hi-Rise style. The Heat Pump units will require an auxiliary drain pan and an auxiliary drain pipe. The heat pump units will be designed for a 4-pipe system. The heat pump units are provided with a hinged door for easy access to filters and fan motors. This will eliminate the need for accessing above the ceiling during periodic maintenance.

Horizontal type heat pump units will be located in the laundry rooms and outside of elevator machine rooms. Heat Pump units will be selected to provide a cooling discharge air temperature of 55º F to 58º F (maximum) using geothermal loop water temperature of 85º F

Acceptable manufacturers of the Heat pumps units include Florida Heat pumps, Climate master or Trane.

Central Station Air handling VAV:

The first floor and second common space and dining facility and Kitchen will be served by a VAV type central station air handling unit located on the roof and ducted down through vertical chase to above ceiling of the common space on the first floor. VAV terminals with hot water reheat will be provided for individual spaces. The return air will be plenum return above the ceiling and will be ducted through a vertical return air duct through a vertical chase to the attic air handling unit. This system will also be provided with DDC controls.

Air Distribution:

Outside air will be ducted from an outside air louver to the outside air connection at each energy recovery unit. Exhaust air will be ducted from the energy recovery unit to a discharge louver. The intake and discharge louvers will be located a minimum of 25 feet apart.

Ventilation air will be ducted from the energy recovery units to the corridor at floor through vertical chases. Exhaust air will be ducted from the bathrooms at each floor to the energy recovery units through vertical chases.

Low velocity ductwork will be round or rectangular galvanized sheet metal. Ductwork will be constructed in accordance with SMACNA standards. All seams will be sealed with “Hardcast”.

Fire dampers will be located at all duct penetrations of rated partitions, floors, and roofs as required by the Arkansas Fire Prevention Code. Fire dampers in low velocity ducts will be Type B and fire dampers in high velocity ducts will be Type C. Access doors will be provided at all fire and smoke dampers. Fire and smoke dampers will be installed in accordance with SMACNA and NFPA 90a requirements. Fire dampers will be as manufactured by Prefco or approved equal. Air handling unit isolation type smoke dampers will be UL listed for the application and will be as manufactured by Prefco or UAF approved equal.

Duct mounted smoke detectors will be located in the main ventilation supply air ducts from the Energy Recovery Units and in the main exhaust air duct connections on each floor. Duct mounted smoke detectors will be connected to the building fire alarm system. Duct mounted smoke detectors and fire alarm system will be specified in Division 16 – Electrical Specifications (furnished and installed by the Electrical Contractor).

Supply air ceiling diffusers will be of the louvered face painted steel type with square face and round neck. Diffusers will be selected to provide the appropriate throw and acceptable noise levels. Supply air sidewall registers will be of the double-deflection adjustable louvered face painted steel type with square necks. Ceiling mounted return air grilles will be of the egg crate painted aluminum type with rectangular face and round / square neck. Return grilles will be selected to provide appropriate noise levels and air pressure drops. Return air sidewall registers will be of the fixed louvered face painted steel type with rectangular necks. Diffusers, registers and grilles will be as manufactured by Tuttle & Bailey, Titus, or approved equal.

Manual balancing dampers will be provided in the branch air duct at each supply air diffuser. Manual balancing dampers will be equipped with extended (for externally insulated ducts) quadrant locks. Manual dampers located above inaccessible ceilings will be equipped with extended rods and surface mounted quadrant regulators.

Flexible air ducts will be used for final connections to supply air ceiling diffusers and air terminals. Maximum length of flexible air duct will be three (3) feet. Flexible air duct will be as manufactured by Wiremold or approved equal.

Low pressure air ducts including outside air, return, and low pressure supply (from the air terminals to the ceiling diffusers and fan coil ductwork) ducts will be round or rectangular. Duct sizes will be selected based upon the equal friction method for 0.05-0.08 inches w.g. air pressure drop per 100 feet of duct. Ducts will be constructed of galvanized sheet metal. Sheet metal gages, reinforcing joints, seams, etc. will be in accordance with SMACNA standards for low pressure ducts. All duct seams will be sealed with Hardcast Type DT sealing tape and Type FTA adhesive or approved equal.

All elbows in return air ducts will be of the radius type. Square elbows with turning vanes will not be used in these ducts.

Testing, Adjusting, and Balancing:

Testing and balancing will be performed by AABC or NEBB certified technicians employed by an independent TAB Contractor. All water and airflow rates will be adjusted to the specified levels. The operation of the heating, ventilation, and air conditioning equipment will be fully tested. The TAB contractor shall coordinate all the tasks with Commissioning agent.

Automatic Temperature Controls:

Controls will be specified in Division 17 – Automatic Temperature Controls. DDC controls will be provided by Johnson Controls under UAF IDIQ contract.

Automatic temperature controls will be direct digital type. The automatic temperature control system will include the following components:

- Facility control panel (located in the facility mechanical room)
- Building control panels (located in the building mechanical rooms)
- Fan coil unit DDC controls (located at each fan coil unit)
- Field equipment panels (located in the facility and residence hall mechanical room)
- VAV AHU
- ERU AHU

Damper and control valve actuators will be electronic. Control valve actuators for energy recovery units will be of the 4-20 mA analog type (not floating 3-wire control). Fan coil valve actuators will be DDC type.

Control wiring where exposed will be installed in conduit. Conduit and wiring will be installed in accordance with Division 16 – Electrical Specifications requirements.

The Controls Contractor (JCI) will be responsible for development of color graphic displays (required for each system and item of equipment), weekly scheduling, energy conservation programs, and alarms.

The Controls Contractor (JCI) will train the Owner in the proper operation and maintenance of the system.

Variable frequency drives will be specified in Division 17 – Automatic Temperature Controls. Motor starters will be specified in Division 16 – Electrical Specifications.

Laminated control diagrams provided by JCI will be mounted in all mechanical rooms.

Domestic Cold Water:

The existing water meter and service entrance will be relocated to the new mechanical room.

The Contractor shall contact the local utility and verify all requirements. The Contractor will be responsible for the payment of all charges assessed by the local utility.

The building RPZ backflow Preventer will be relocated to the new mechanical room.

From the domestic water feed, before the domestic water meter and backflow preventers, a branch will be routed for the irrigation water with a new meter and backflow preventer.

After the domestic water backflow preventers, a dedicated branch and backflow preventer will be provided for mechanical make up water.

The domestic water will be routed up to the attic by a single riser to a manifold. In areas where there are multiple attics levels, a pressure reducing valve will be provided if required to achieve the minimum required pressure at the highest attic. Each stacked bathroom group will then be gravity fed by piping from the attic down to the first floor.

Domestic cold water piping throughout the building will be Type “L” copper with solder joint wrought copper tube fittings.

Isolation valves will be installed for each supply drop down from the attic.

Domestic Hot Water:

Domestic hot water will be provided by two new steam fired instantaneous water heaters. Each water heater will be sized for at least 75% of the total capacity.

Cold water supply to the water heaters will be provided from the domestic water. The domestic hot water will then be piped up to the attic by a single riser to the manifold, similar to the cold water arrangement. Each stacked bathroom group will be gravity fed from the attic down to the first floor.

The hot water will be collected below the first floor and returned to the water heaters by means of a recirculation pump.

Domestic hot water piping throughout the building will be Type "L" copper with solder joint wrought copper tube fittings.

The UAF has experienced some problems recently with scaling in their steam fired water heater equipment. Installation of a water softener system for the water supplied to the water heaters would virtually eliminate this problem. This system will be installed in the main water service room. The water softener system will be supplied on the Domestic Hot Water System only.

Acceptable manufacturer for water heaters is Armstrong or UAF approved equal.

Plumbing Fixtures:

Plumbing fixtures will be replaced with heavy duty commercial, low flow water conserving type.

Water closets will be American Standard or UAF approved equal.

Flush valves will be Sloan or approved equal.

Sinks will be Just or approved equal.

Service sinks and shower basins will be Stern-Williams or approved equal.

Shower wall surrounds will be Aquaglass, solid surface or approved equal.

Faucets will be T&S Brass or approved equal.

Shower valve will be Powers, Symmons or approved equal.

Laundry washing machine boxes will be Oatey, or approved equal.

Floor drains will be Zurn or approved equal.

Wall hydrants will be Woodford, J. R. Smith or approved equal.

Supplies, stops and P-traps will be McGuire or approved equal.

Water closets will be vitreous china, flush valve with elongated bowls. Water closets will be wall mounted in gang toilet areas with chases for wall carriers and floor mounted in area without chases for carriers. Flush valves will be Sloan Dual-Flush, flush valves. Seats will be extra heavy duty open front commercial type with lid.

Urinals will be vitreous china with dual flush-flushvalves and will be provided as shown on architectural plans.

Lavatories will be vitreous china. Lavatory trim will be chrome plated brass and ADA compliant; including single lever faucets with grid striners, 17 gauge P-traps. Supply stops will be loose key.

Drain, trap and stops in handicapped accessible areas will be provided with one-piece ADA approved covering.

Countertop sinks will be 18 gauge, type 304 stainless steel. Sink trim will be chrome plated brass and ADA compliant; including single lever gooseneck faucets, stainless steel basket strainers, 17 gauge P-traps. Supply stops will be loose key

Floor mounted cast terrazzo service sinks will be used in janitor's closets. Service sinks will include chrome plated brass trim, hose connection with vacuum breaker and mop hanger.

Shower valve will be a pressure and temperature balance type with showerhead, curtain rod and anti-microbial shower curtain. Shower drain will be heavy duty floor drain type with 40 mil pvc shower pan liner extended up the wall minimum of 24 inches.

ADA compliant showers will be provided with seat, grab bars and hose mounted hand-held sprayer with grab bar mounted slide attachment.

Floor drains will be cast iron with nickel-bronze strainers. All floor drains will be provided with Proset Trap Guard trap seal. There will be a floor drain in each shower area, mechanical room and any area required per UAF standards.

Sanitary Sewer:

Sanitary sewer piping will be routed from each fixture through the building and drain to manholes on the site. Clean-outs (2-way) will be installed at each building connection.

Wet stacks will be utilized where ever possible and as allowed by the plumbing code. This will provide a savings on vent piping materials and installation.

Interior sanitary sewer and vent piping will be Schedule 40 PVC with DWV solvent joint fittings.

New sump pumps will be located in each existing elevators and discharged to an oil interceptor located in the main mechanical room then gravity drain to a floor drain connected to the sanitary system.

A new grease interceptor for the kitchen will be located outside the building, will have a sample port and be connected to the sanitary sewer. The grease interceptor will be locally manufactured of concrete.

All sinks in food preparation areas that will contain food will have an indirect connection to the sanitary drain system.

Natural gas:

Natural gas will be provided to all required gas fired kitchen and mechanical equipment. Gas piping will be schedule 40 black steel threaded piping with malleable fittings.

Storm Sewer:

Building roof drain downspouts will be connected to existing roof drain and routed together, below grade, and routed to the nearest storm sewer catch basin.

New storm and roof drain piping will be Schedule 40 PVC with DWV fittings.

Insulation:

Chilled water, heating water, condensate drain, domestic cold water supply, and domestic hot water supply piping will be insulated with fiberglass.

Exposed piping insulation will be covered with a PVC jacket.

Run out piping (maximum length of five (5) feet) to fan coil units may be insulated with closed cell foam insulation.

Round and rectangular outside air, ventilation air, and supply air ducts will be insulated with 2" thick fiberglass duct wrap. Exhaust ducts will also be insulated.

Exposed insulated ductwork will be additionally covered with canvas.

Chilled water pump bodies will be insulated. Air separator in heating water piping will not be insulated. Air separator in Chilled water will be insulated.

Roof drain bodies will be insulated with 2" thick fiberglass duct wrap. Horizontal roof drain piping will be insulated with fiberglass. Vertical roof drain piping will not be insulated.

All insulation will comply with the minimum thickness and resistance value requirements stipulated in the Arkansas Energy Code.

G.4 Fire Protection

Fire Protection Services

The size of the main fire protection service is 8". The supply to the system shall incorporate the use of a double detector check back flow assembly, installed indoors, in the fire pump room. The water supply shall originate from an existing 12" city main on California Blvd., which is south of (in front of) Wing B. There shall also be a 6" fire department connection (FDC) line terminating in the fire pump room.

The lead-ins for both the 8" service main and the 6" FDC shall pass thru the buildings existing stem wall. This shall be accomplished by core-drilling 12" and 10" holes, just above the existing finished floor level, where the new fire pump is to be located. Install Link-Seals with stainless steel hardware to seal penetrations.

The lead-ins for both the 8" service main and the 6" FDC shall pass thru the buildings existing stem wall. This shall be accomplished by core-drilling 12" and 10" holes, just above the existing finished floor level, where the new fire pump is to be located. Install Link-Seals with stainless steel hardware to seal penetrations.

All work shall be coordinated with the civil engineer.

The water supply shall meet all Arkansas Department of Health requirements as well as the City of Fayetteville Water Department requirements.

Fire Protection Systems

This project is Phase 1 and shall be confined to Wing A, except as noted herein. The entire facility shall be equipped with fully automatic fire sprinkler systems, standpipe systems and a new 1,000 GPM electric fire pump, as per the requirements of FM-Global, NFPA, the Arkansas Fire Prevention Code and Arkansas Department of Health. The fire pump shall be located at the East end of Wing B. The fire pump shall be designed to deliver 500 GPM at 100 PSI to the most remote standpipe, while allowing 250 GPM at the next two standpipes (nearest the remote), as per the UAF requirements. Standpipes shall be 6" horizontally and each stairwell will have a minimum 4" vertical standpipe with 2½" fire department valves located at 3'-6" AFF at each main floor landing. Connections for the automatic fire sprinkler systems shall be made to the standpipes at each floor

and utilize tamper and flow switches. Additionally, 6" diameter connections shall be provided as connecting points for future standpipe and fire protection extensions into Wings B, C and D and the fire pump shall be hydraulically sized to for these other portions of the building.

A remote fire department connection (FDC) shall be provided for the entire facility as coordinated with the local fire department requirements and UAF Fire Marshal. The FDC assembly shall consist of two (2) 5x4 Storz connections connected to a vertical 6" pipe and 6" underground main. The FDC shall connect to the fire pump assembly, downstream of both the fire pump check valve and bypass check valve. Each Storz connection shall utilize a Knox locking cap. The FDC shall have "FDC" signage as per the requirements of the UAF.

All small electric closets and telephone / IT closets are not sprinklered, but must be wholly enclosed with 2-hour rated walls and ceiling.

Sprinkler heads for use in ceilings shall be the concealed pendent type with white cover plates.

The design and installation shall comply with all applicable codes and ordinances. The sprinkler systems and fire pump shall be designed per NFPA and FM Global Property Loss Prevention Data Sheets.

Each floor in the building will be a separate fire zone and will be controlled and monitored to initiate alarm specific to that floor. The sprinkler alarms shall be interfaced with the building fire alarm system.

The fire pump shall not be connected to the facility's back-up generator; therefore, an automatic transfer switch shall not be required.

All fire protection system pipe, fittings, sprinklers, valves, etc., shall be domestic. Pipes shall be black carbon steel, Schedule 40 or Schedule 10. Fittings for threaded pipes shall be standard black, class 125, cast iron. Groove fittings and couplings shall have a minimum working pressure of 300 PSI or greater. All materials shall be new. Grooved fittings and couplings shall be of the same manufacturer and series / product line.

The use of CPVC pipe and fittings is strictly prohibited.

A NICET III or IV certified automatic sprinkler layout technician shall perform fire sprinkler system design. Installation of the fire protection systems shall be by a contractor licensed to perform fire protection work within the great state of Arkansas.

G.5 Electrical Systems

Site Electrical Services

Electrical service will be provided by an existing 2-way MV switch. This MV switch will feed a new pad mounted 1,000KVA service transformer. The service transformer will be located approximately 20' to the south of Wing A which is also approximately 130' south of the main electrical room in Wing A. The primary voltage is 12.47KV. The secondary service will be 208Y120V, 3Phase, 4Wire. The estimated connected load is 1,000KW.

Normal Service

Electrical service will be provided by an existing 2-way MV switch. This MV switch will feed a new pad mounted 1,000KVA service transformer. The service transformer will be located approximately 20' to the south of Wing A which is also approximately 130' south of the main electrical room in Wing A. The primary voltage is 12.47KV. The secondary service will be 208Y120V, 3Phase, 4Wire. The estimated connected load is 1,000KW.

Normal power throughout the building will be provided from a main distribution switchboard located in the main electrical room. This main distribution switchboard will be fed from the service transformer located outside of the building. This main distribution switchboard will serve distribution panels located in electrical closets on the first floor of each area which will in turn serve branch panels located in electrical closets on each floor above. Unless noted otherwise, the feeders to the distribution panels listed below will be matched to the panel size they are feeding. The panel sizes reflected in throughout the electrical section are approximate sizes and are subject to change as the design progresses.

Emergency & Standby Power

A natural gas or diesel generator, depending upon cost and power capacity required by the building for emergency standby power, will be provided on site. It shall supply emergency power to the following:

- Life safety means of egress lighting
- Elevators
- Refrigerator and freezer in kitchen area
- Selected 120 volt loads as defined by the owner

The estimated generator size is 400KW at 208Y120V, 3 phase, 4 wire. 4 pole automatic transfer switches will be installed in the Emergency Electrical Room. Unless noted otherwise, the feeders to the distribution panels listed below will be matched to the panel size they are feeding.

Wing A – First Floor, Main Electrical Room:

The main distribution switchboard will be located in the main electrical room. The switchboard will be a Square D QED switchboard and will be rated for 3000 amperes, 208Y120V, 3 phase, 4 wire. The main distribution switchboard will serve a 600A and a 400A distribution panel that will serve Wing A. Additionally, the main switchboard will serve 600A distribution panels located in the electrical closets on the first floor of Wing C and Wing D. It will also serve a 600A and an 800A distribution panel located in the electrical closet on the first floor of Wing B.

Wing A – First Floor, Emergency Power Room:

The emergency power distribution switchboard and Automatic Transfer Switches will be located in the first floor emergency power room. The Square D QED switchboard will be rated at 1000 amperes, 208Y120V, 3 phase, 4 wire. The emergency power switchboard will serve a 125A life safety panel and a 400A elevator panel located in the Emergency Power Room. The switchboard will also serve 125A life safety panels located on the first floor electrical closets of Wings B, C and D. A 400A kitchen equipment panel located in the kitchen will also be served by the switchboard.

Wing A – Second Floor Electrical Closet:

A 225A distribution panel for mechanical and lighting loads will be located in the second floor electrical closet of Wing A. This distribution panel will also sub-feed a 125A panel for receptacle loads. A 125A life safety panel will provide power to the second floor life safety lighting. A lighting control panel will provide lighting controls to this floor.

Wing B – First Floor Electrical Room:

A 600A and 800A distribution panels for normal power distribution will be located in the first floor Wing B electrical room. A 225A life safety distribution panel will provide life safety power to Wing B. A lighting control panel will provide lighting controls to this floor.

The 600A distribution panel will serve lighting and mechanical loads on the first floor as well as a 125A distribution panel for receptacle loads. The distribution panel will also serve 225A

branch panels located in the stacked electrical closets on floors 2-4 of Wing B and 60A load centers located in each residence hall apartment located on the first floor of Wing B.

The 800A distribution panel will serve 225A branch panels located in the stacked electrical closets on floors 5-7 of Wing B. The distribution panel will also serve a 400A branch panel located on the 8th floor of Wing B.

The 225A life safety distribution panel will serve 100A life safety panels located on each floor. The panels will be fed with a 60A feeder.

Wing B – Floors 2-7 Electrical Closets:

A 225A panel located in the stacked electrical closets on Floors 2-7 of Wing B will provide power for lighting and mechanical loads and will sub-feed a 125A panel for receptacle loads. 125A life safety panels will provide power to each floor for life safety lighting. A lighting control panel in each closet will provide lighting controls these floors.

Wing B – Floor 8 Electrical Closet:

A 400A panel located in the stacked electrical closet on the 8th floor of Wing B will provide power to the roof top mechanical units, mechanical equipment and lighting and will also sub-feed a 125A panel for receptacle loads. A 125A life safety panel will provide power for life safety lighting to the floor. A lighting control panel will provide lighting controls to this floor.

Wing C – First Floor Electrical Closet:

A 600A distribution panel located in the first floor electrical closet of Wing C will provide power to lighting and mechanical loads on the first floor. The distribution panel will also serve a 225A branch panel in the second floor electrical closet and a 400A branch panel in the third floor electrical closet. A 225A life safety distribution panel that will feed life safety panels on the floors above will also be located in this closet. A lighting control panel will provide lighting controls to this floor.

Wing C – Second Floor Electrical Closet:

A 225A branch panel located in the second floor electrical closet of Wing C will provide will provide power for lighting and mechanical loads and will sub-feed a 125A panel for receptacle loads. A lighting control panel will provide lighting controls to this floor.

Wing C – Third Floor Electrical Closet:

400A branch panel located in the third floor electrical closet of Wing C will provide power for lighting, mechanical and roof top equipment loads and will sub-feed a 125A panel for receptacle loads. A lighting control panel will provide lighting controls to this floor.

Wing D – First Floor Electrical Closet:

A 600A distribution panel located in the first floor electrical closet of Wing D will provide power to lighting and mechanical loads on the first floor. The distribution panel will also serve 225A panels located on the second and third floors and a 400A branch panel located on the fourth floor. A 225A life safety distribution panel that will feed life safety panels on the floors above will also be located in this closet. A lighting control panel will provide lighting controls to this floor.

Wing D – Second and Third Floor Electrical Closets:

225A branch panels located in the second and third floor electrical closets of Wing D will provide will provide power for lighting and mechanical loads and will sub-feed a 125A panels for receptacle loads. A lighting control panel will provide lighting controls to this floor.

Wing D – Fourth Floor Electrical Closet:

400A branch panel located in the fourth floor electrical closet of Wing D will provide power for lighting, mechanical and roof top equipment loads and will sub-feed a 125A panel for receptacle loads. A lighting control panel will provide lighting controls to this floor.

General Requirements:

The installation will comply with the latest criteria (April 30, 2006) as defined by the UAF Facilities Management.

Existing service entrances for power, fiber, telephone and will be relocated or new service entrances will be established as required by the installation.

In general, commercial grade duplex type receptacles will be utilized throughout the entire facility as required to achieve specific programming or equipment power requirements. These general purpose receptacles will be circuited with a maximum of six (6) receptacles to a circuit (#12 AWG, 3/4" conduit minimum). All device outlet covers will be phenolic and will have the backside of the cover marked with the serving panel and circuit number in indelible ink. UAF may

require additional labeling of cover-plates. Each junction box installed above the ceiling will also have the covers marked with the panel and circuit number of the circuit(s) contained within.

ARC fault circuit breakers will be provided in panels serving dwelling units as required by the NEC.

GFI type devices will be installed at all wet locations. GFI type receptacles will be located at the mechanical equipment for the connection of heat tape and service needs as required. Feed thru GFI device installations will not be accepted.

All wiring will be copper with a minimum size of #12 AWG (except auxiliary systems wiring may be a minimum of #18 AWG) and installed in conduit. Largest wire size allowed for installation is 500 kcmil. All concealed conduit installed above grade may be EMT or galvanized GRSC with a minimum conduit size of 3/4". All exposed conduit installed above grade will be GRSC minimum size of 3/4". All conduit installed below grade may be Schedule 80 PVC. All exposed conduit will be painted to match wall finish. All exposed conduit will be installed parallel and perpendicular to the building construction and installed in a neat and workmanlike manner. Conduit sizes are limited to 3/4", 1", 1-1/2", 2", and 4" without special permission by UAF CCM.

Lighting:

The interior lighting for this facility will be accomplished through the use of recessed or surfaced mounted compact fluorescent fixtures in the residence units and a combination of either 2' x 2' or 2' x 4' and recessed compact fluorescent fixtures in the common spaces. Fluorescent light fixture ballasts will be of the energy-saving electronic type with a ballast factor of 0.9 or higher. Electronic ballasts will be of the "low harmonic" type (less than 10 % THD). LED can light fixtures will be considered in certain applications. The lighting levels for each space within this facility will be designed in accordance with the Arkansas Energy Code / IECC / ASHRAE 90.1 2001 and the I.E.S. recommended practices.

The emergency egress lighting and the exit lighting will be provided in accordance with the Life Safety Code (NFPA 101) and will be connected to the emergency power system. The exit lights will utilize low power consuming LED technology. General emergency lighting and exit lighting will be non-switched throughout the facility and will be installed to clearly delineate the path of egress.

Fire Alarm:

An addressable type fire alarm system will be installed. Existing main fire alarm panels and remote panels may be relocated and reused to provide a fully functional fire alarm system. The fire alarm system will be installed in conduit. Node panels will be installed in electrical closets on each floor of Wings A, B, C and D. A remote fire alarm annunciator panel will be installed at the main entrance and at the RA rooms as required. A complete automatic smoke detection system will be installed throughout the facility.

Smoke detectors will be installed in the following areas: elevator hoist ways; elevator lobbies; elevator machine rooms; stairwells; corridors; residence living suites, bedrooms, and adjacent areas next to bedrooms; storage rooms; telephone / IT / CATV rooms; and electrical rooms. Heat detectors will be installed in the mechanical rooms and elevator machine rooms. Duct mounted smoke detectors will be installed in the supply air ducts of the ventilation air handling units.

The entire fire alarm system will be UL listed and installed by a licensed fire alarm installer (a minimum of five (5) years experience). The entire system will be certified by the installer, prior to acceptance by the Owner.

The fire alarm panel will provide a sequenced shutdown of the elevators, in the event of an alarm condition (flow switches and smoke detectors) in the elevator lobbies, hoistways, or elevator machine rooms where sprinkler heads are installed.

The fire alarm system will be an EST system purchased under the existing UAF IDIQ contract and will be connected to the UAF Control Center. The fire alarm system will also be interfaced with the security system.

Lightning Protection:

A lightning protection system will not be required for this project.

Hearing Impaired Communication System:

A two-way hearing impaired audio / visual system will be installed in each Living Suite designated for use by the hearing impaired. The system will comply with requirements as detailed in the IBC.

Security System:

Card readers (magnetic strip or proximity) will be installed for exterior access to lobbies and corridors. Security cameras will

be installed in lobbies and corridors and video footage will be recorded onto DVRs. Security cabling will share cable management system in corridors with all other low voltage systems. Access control and security devices are to be purchased under the existing UAF IDIQ contract.

Voice / Data System:

The Contractor will provide rough-in for data outlets consisting of two-ganged back boxes with a single gang mud ring and 1" conduit stub up into accessible ceiling space within 12" of cable tray or cable management devices. Each conduit shall have a plastic bushing on the end of conduit. All student suits will have a total of two (2) Category 6 drops for each bed (a total of 4 drops of two per room).

Cable management in corridors will be either cable trays or bridle hooks, cable trays being preferred. Cable trays similar to B-Line Center Rail will be installed in telecom rooms as determined by UAF Facilities Management. Velcro wire ties will be used to bundle cables. The contractor will install raceway between floors for data, CATV, and telephone cabling.

The contractor shall be responsible for installing and terminating all cable from each outlet to the patch panel. All cables will be continuous from outlet to patch panel and will be properly marked. All horizontal cable in the building will be Category 6. The contractor shall be responsible for installing all patch panels, punch down blocks, floor mounted racks and wire management system. Contractor will provide all cable, outlet jacks, cover-plates, patch panels, racks and wire management system. Testing and certification are the responsibility of the contractor.

The contractor will provide a Category 6 cable to a wireless network throughout the corridors and in each building common space. The Contractor will provide a 4'x4' backboard in all telephone / IT rooms for telephone.

The contractor will be responsible for relocating the existing fiber optic service to the building to the new main IT room. The contractor will be responsible for installing a six fiber, fiber optic cable in conduit from the Main IT Closet to each Branch IT Closet on each floor. Each of these branch rooms will have a homerun back to the main telephone / IT room. The contractor shall be responsible for installing all fiber optic patch panels and terminating fiber. Testing and certification of the fiber optic system are the responsibility of the contractor.

Copper telephone cable shall be run to each IT closet. Telephone cable will be routed from the nearest IT closet to designated locations throughout the building. Dedicated telephone lines will be required for each elevator, fire alarm panel, and any fax machine locations. Phone lines located at the front desk or residence hall apartments are to be switched using a PBX system.

Each telephone / IT closet will have a copper ground buss with a #6 SDBC connection to the main building ground. Ground bonding wire will be run in EMT conduit. Each IT room will include (4) quadraplex outlets on two (2) dedicated circuits.

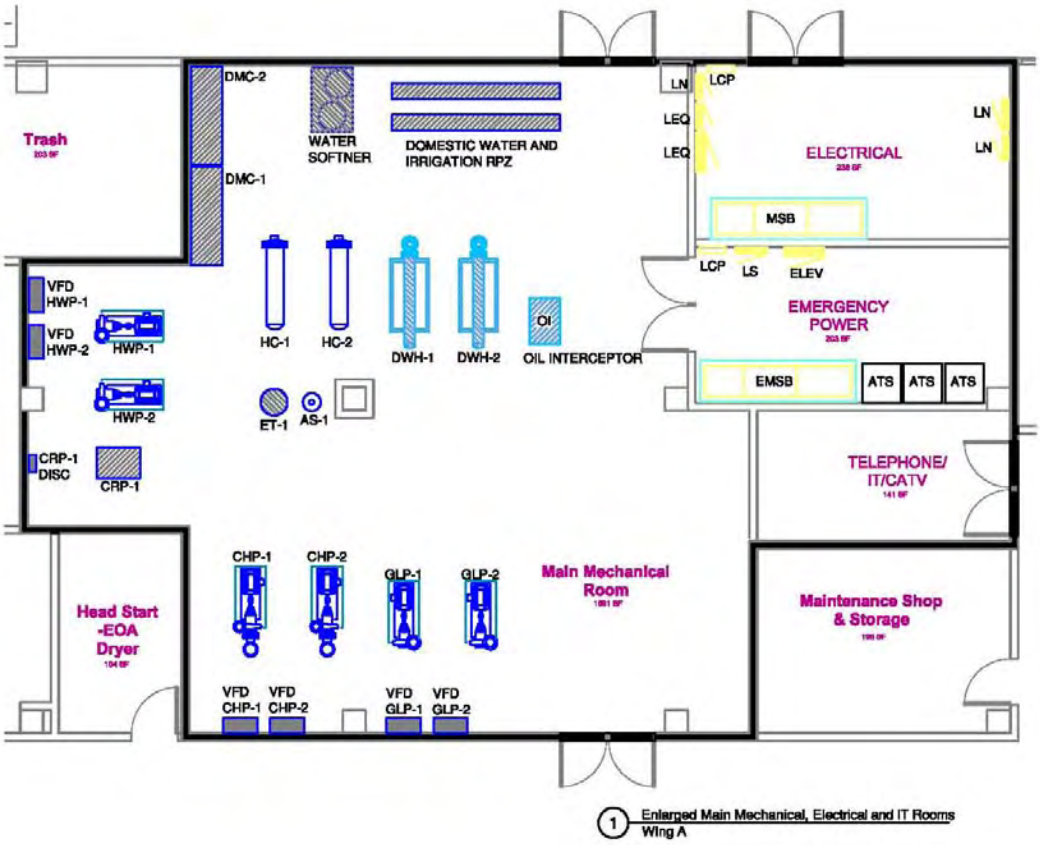
CATV:

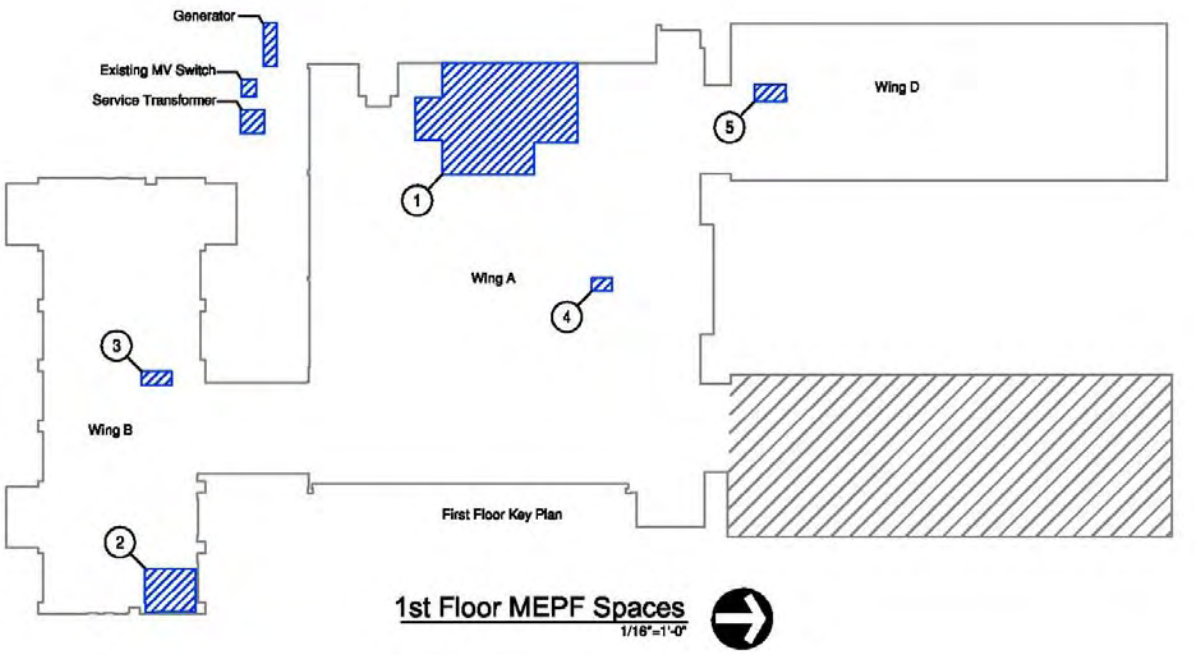
The cable TV system will be coordinated with Cox Communications. The Contractor will provide rough in for CATV outlets that consisting of single gang back boxes and 1" conduit stub up into ceiling space to near cable tray. Each conduit shall have a plastic bushing on the end of conduit and pull string installed. Each student suite will have one CATV drop. Contractor will install coax cable provided by Cox Communications. All coax to individual outlets will be a home run back to respective floor branch telephone / IT room. Cox Communications will provide all terminations. The contractor will provide a 4'x4' backboard in all telephone / IT room (main and branch).

The Contractor will provide service entrance conduit from five feet outside the building to the main telephone / IT room. Conduit for CATV will be (1) 3" PVC with pull string. Cox Communications will provide and install all main feed cables to main telephone / IT room and to each branch room (Exact requirements to be verified with Cox Communications).

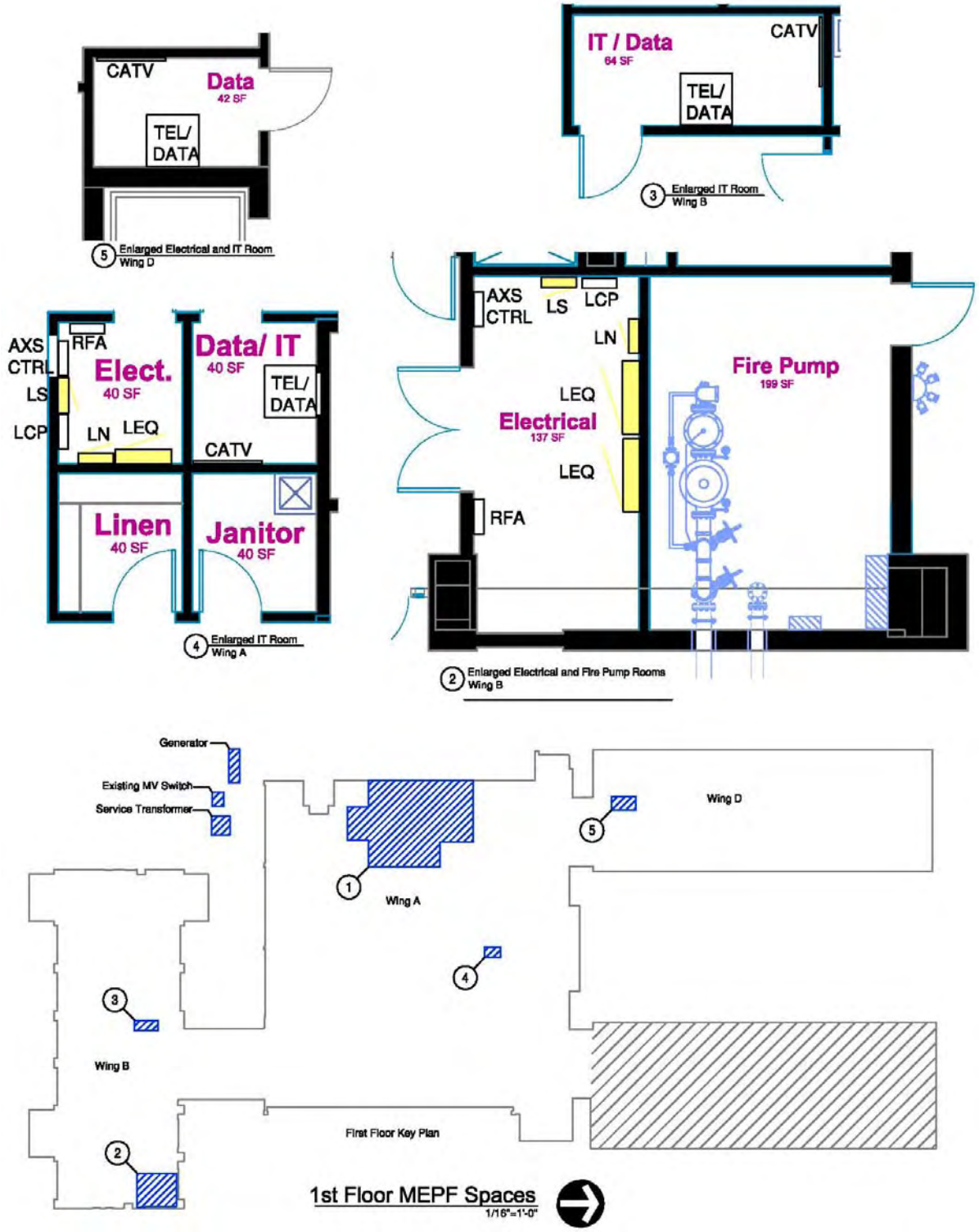
G.6 MEP Exhibits

Main Mechanical Room - Wing A

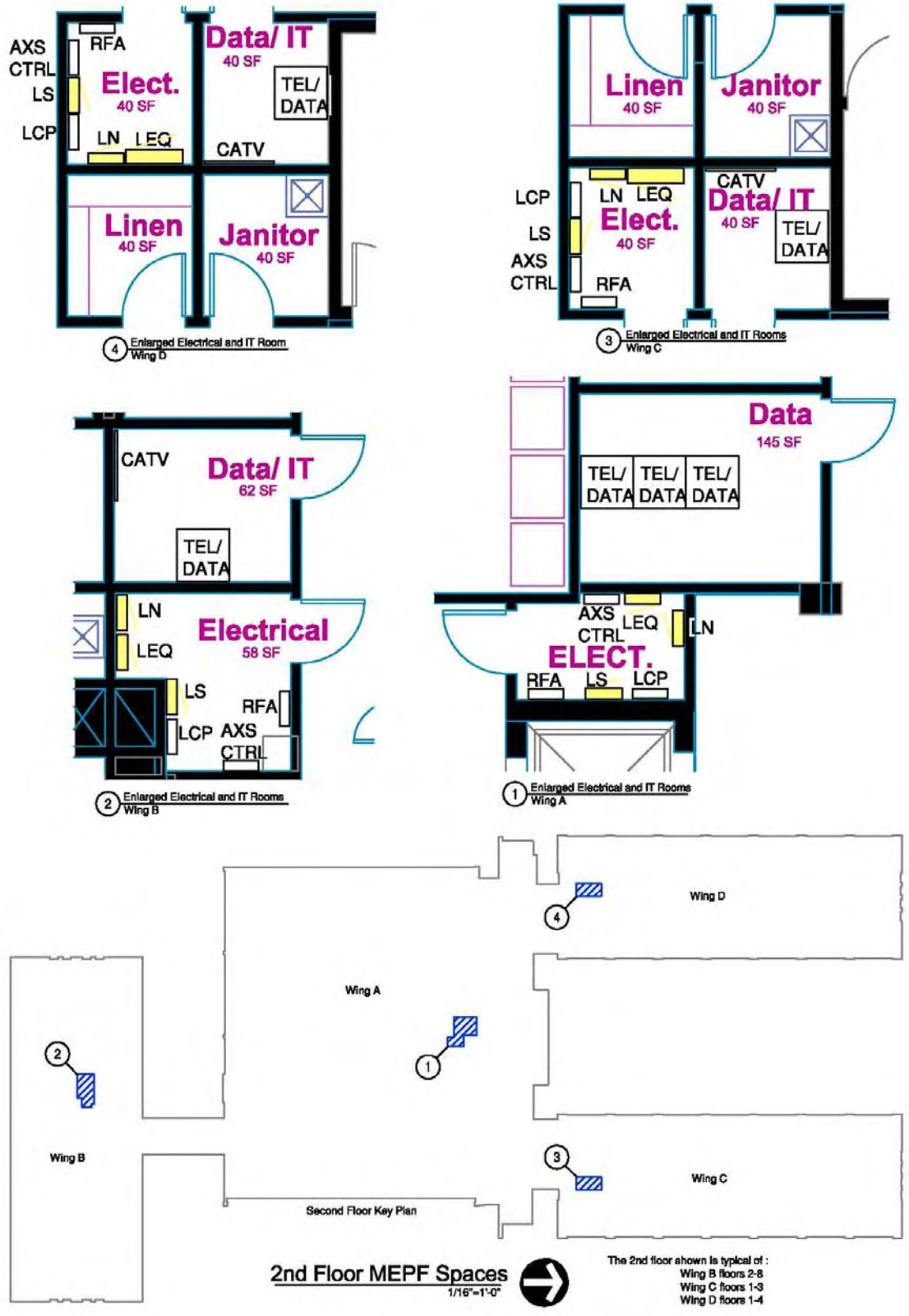




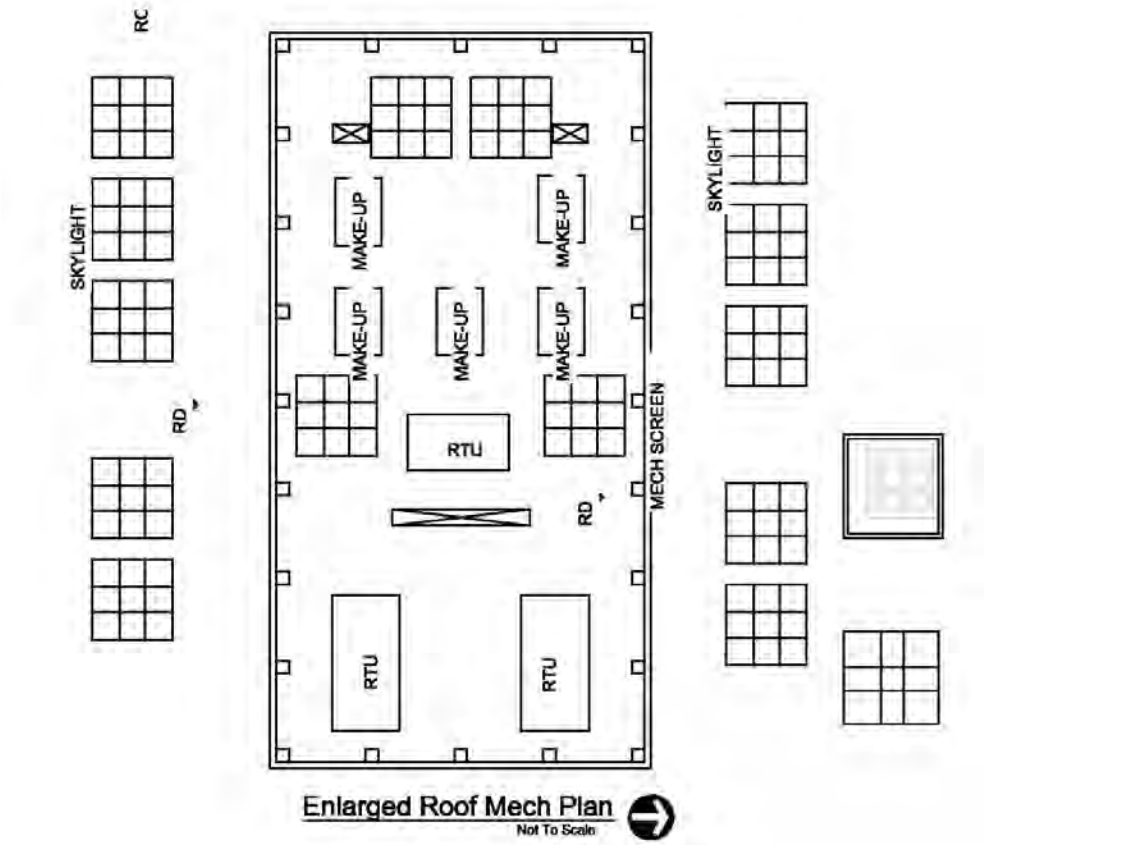
Secondary Lower Level Mechanical Rooms - All Wings

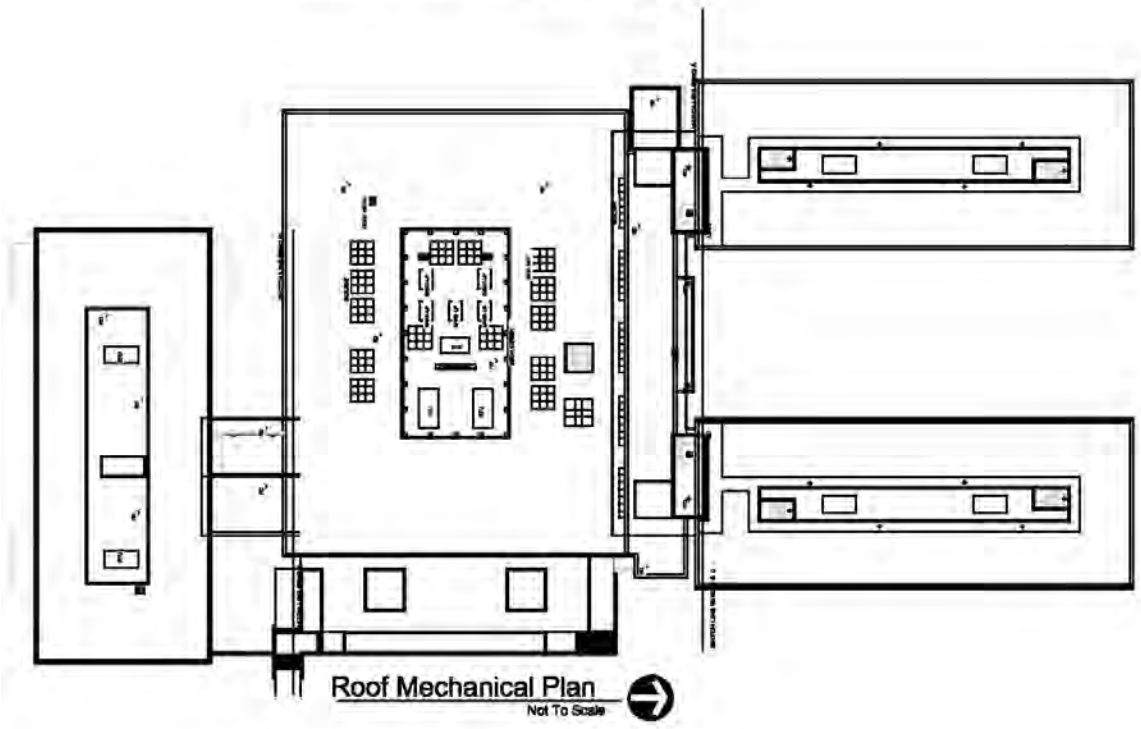


Upper Level Mechanical Rooms - All Wings



Roof Mechanical Equipment





H. SUSTAINABILITY

H.1 Sustainability Summary & Goals

H.2 Owner’s Project Requirements

H.3 Green Globes Worksheet

Sustainability

H.1 Sustainability & Energy Goals

One of the University of Arkansas' institutional goals, as put forth in the Chancellor's leadership principals is to "promote environmental sustainability". As a torchbearer of that goal, the Facilities Management department has determined that the renovation of Pomfret Hall should achieve at a minimum, Green Globes-2 Globes or the equivalency of LEED Silver.

The steering committee has chosen the **Green Globes** assessment program to move forward with for the Pomfret Hall renovation. Essential elements of the Green Globes system include:

- Comprehensive environmental assessment protocol
- Software tools that speed and simplify self-assessment
- Best practices guidance for green construction and operations
- Qualified assessors with green building expertise
- Rating/certification system

The Green Globes for New Construction (NC) tool is a web application that assists architects, engineers, construction professionals, building owners and facilities managers in evaluating, quantifying, and improving the environmental performance of new construction projects as well as **major renovations**. It provides building sustainability assessment, education and feedback throughout the design-build-commission process.

Projects that score high on the Green Globes rating scale, and incorporate the sustainability enhancement suggestions coming from the tool are expected to:

- Use less energy
- Consume fewer fossil fuels
- Reduce green house gas emissions
- Conserve water and other natural resources
- Reduce other forms of pollution
- Minimize impact on land surrounding the building
- Offer a better working environment for occupants

A summary of the evaluation criteria is listed below:

A. PROJECT MANAGEMENT POLICIES & PRACTICES

- A.1 Integrated Project Design
- A.2 Environmental Purchasing
- A.3 Commissioning Plan/ Documentation
- A.4 Emergency Response Plan

B. SITE ECOLOGY

- B.1 Development Area (site selection, development density, site remediation)
- B.2 Minimize Ecological Impacts
- B.3 Enhancement of Watershed Features (site grading, stormwater management, pervious cover, rainwater capture)
- B.4 Site Ecology Enhancement

C. ENERGY

- C.1 Energy Performance
- C.2 Reduced Energy Demand
- C.3 Energy-efficient Systems
- C.4 Renewable Energy Sources
- C.5 Energy-efficient Transportation (public transportation, bike facilities)

D. WATER USE

- D.1 Water Performance
- D.2 Water-conserving Features
- D.3 On-site Water Treatment (grey water system, on-site treatment)

E. RESOURCES, MATERIALS & SOLID WASTE

- E.1 Low-impact Systems and Materials
- E.2 Minimize Consumption of Resources
- E.3 Reuse of Existing Buildings
- E.4 Building Durability, Adaptability and Disassembly
- E.5 Reduction, Reuse and Recycling of Construction & Demolition Waste
- E.6 Recycling and Composting Facilities

F. EMISSIONS, EFFLUENTS & OTHER POLLUTANTS

- F.1 Minimize Air Emissions
- F.2 Minimize Ozone Depletion
- F.3 Avoid Contamination of Sewers & Waterways
- F.4 Pollution Minimization (storage tanks, PCBs, radon, asbestos, pest management, hazardous materials)

G. INDOOR ENVIRONMENT

- G.1 Ventilation System
- G.2 Control of Indoor Pollutants
- G.3 Lighting (daylighting, views, lighting design)
- G.4 Thermal Control
- G.5 Acoustic Control

CATAGORY	PNTS	%	1G	2G	3G	4G
TOTAL AVAILABLE/ REQUIRED POINTS	1000	100%	35%	**55%**	70	85%

H.2 Owner's Project Requirements

(Commissioning Goals for Sustainability and Energy)

This pre-design report is intended to include all specific University of Arkansas (UofA) Owner Project Requirements (OPR) regarding building systems, maintainability, training, and energy performance. The OPRs are considered to be "living" requirements during the design phases of the project, and as such are subject to change and evolve as the design and construction progresses. However, changes in the OPRs can only be implemented and approved by the Owner. By establishing the goals of the Pomfret Honors Quarters Renovation in this document, the OPR becomes a record by which the UofA, and other parties involved in the project, can judge the degree of success in meeting the Owner's defined objectives and criteria.

The Owner requires this project include an effective Commissioning (Cx) Process. The success of any Cx process depends on the development of a clear, concise, and comprehensive OPR document.

Comfort Systems USA (CSUSA) Energy Services has participated in various Owner programming meetings, discussions with various Owner stakeholders, and discussions with various design team members in an effort to help facilitate the OPR. CSUSA Energy Services will develop a checklist of OPRs as part of the commissioning process. This checklist will be utilized to verify compliance with the OPR during each phase of design and construction. CSUSA Energy Services suggests sharing the checklist of information with all members of the project team, including sub-contractors, as "supplemental information".

During the Design Phase of the project delivery process, the OPRs are conveyed in the construction documents by the design team and verified by CSUSA Energy Services. As the design progresses, the assumptions made by the design team are documented in the Basis of Design (BOD) to be developed by the design team. The BOD document conveys the designers' assumptions in developing a design solution that fulfills the OPR objectives and criteria.

The BOD document records the concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions

and specific assumptions made by the designers during design development.

As the Commissioning Authority, CSUSA Energy Services will develop a detailed commissioning plan for the project. The commissioning plan will outline, in detail, the roles and responsibilities of all project team members with regard to completion of the commissioning process. The commissioning plan will include a matrix of responsibility, detailed commissioning scopes of work, detailed project execution plans, sample reports, sample checklists, sample functional performance tests, and other relevant information.

In addition to the commissioning plan, CSUSA Energy Services will work with the design team to develop detailed commissioning specifications for the project. CSUSA Energy Services can develop the commissioning specifications and/or review commissioning specifications to be developed by the design team. The commissioning specifications shall be a part of the contract documents for the project and shall clearly define the roles and responsibilities of the general contractor and sub-contractor with regard to supporting commissioning activities.

CSUSA Energy Services will also play an important role in review building and equipment submittal documents. It is requested that the appropriate submittal packages be delivered by the contractor team coincidentally to the appropriate Owner and designer team members, including CSUSA Energy Services. This will allow for the submittals to be reviewed in a timely manner and a comprehensive set of comments to be provided back to the contractor team for review and response. The intent is to avoid additional time requirements for submittal document review and approval.

The contractor team will be expected to support and participate in the commissioning process as defined in the commissioning specifications and commissioning plan. The contractor shall provide all required commissioning documentation, assist with pre-functional checklists, assist with functional performance testing, provide the required training for appropriate Owner personnel, coordinate all training with the commissioning agent, assist with commissioning close-out activities, and assist with warranty period commissioning activities.

TRAINING REQUIREMENTS FOR OWNER'S PERSONNEL

Maintenance supervision will be performed by Facilities Management and Housing staff and will require select Residence Life Facility Maintenance staff to receive detailed training on the building HVAC systems. In close coordination with CSUSA Energy Services and the Owner, the contractor team shall provide training to all staff will educate staff members on identified systems and assemblies to be installed in the facility.

Training will include the education of multiple members of staff in the proper use of the monitoring system. One member of Facility Management staff will be responsible for maintaining and updating the building documentation package for easy online reference.

Training shall include an overview of system components and descriptions, equipment locations and functions, safety provisions and concerns, normal operating and energy conservation techniques, BAS, etc. Training shall also include a review of the written O&M instructions, discussion of relevant health and safety issues or concerns, discussion of warranties and guarantees, discussion of common trouble shooting problems and solutions, etc. Training shall normally start with orienting facility operations and information technology staff with the facilities infrastructure including location of data ports in the ceilings, valves, and equipment during construction. Classroom sessions for operators followed by hands-on training for each piece of equipment will occur immediately after start-up of the specific equipment. Classroom sessions may include the use of overhead projection, slides, and training videos from equipment manufacturers as might be appropriate. Hands-on training shall include start-up, operation in all possible modes, (including manual, shut-down and any emergency procedures) and preventative maintenance for all pieces of equipment. Training is a progressive on-going process which will occur during construction, after substantial completion, and prior to final completion. A final training exercise will be conducted on-site after occupancy phase.

The intent of training is to clearly and completely instruct the Owner's Personnel on all capabilities of the control systems, electrical systems, and mechanical systems. It is not typically expected that the trainees will have memorized everything from the training session but that they know where the information is, can find it, and understand sufficiently how to walk through the key steps to troubleshoot a problem and

resolve it. Training will be witnessed and documented by the commissioning authority; the contractors will develop and execute the training program. All persons performing tasks related to building operations and maintenance shall receive at least 24 hours of training related to building systems per the Owner's directive, BCxA, Green Globes and/or LEED®. As needed, the training will include pre-testing and post testing in an attempt to quantify training effectiveness.

DISTRICT COOLING CHILLED WATER SYSTEM

District cooling system connection shall be consistent with the campus standards. The building chilled water system shall be designed and selected around a low flow, high temperature different concept with a target difference between chilled water supply and return temperatures of approximately 16 degrees.
As such, all cooling coils shall be designed and equipped with two-way control valves to minimize chilled water flow requirements during non-peak cooling periods.

Due to the planned phasing of the building renovation, it is anticipated the existing building chilled water distribution system will be connected to the existing district cooling system. As such, provisions will be necessary to protect the existing district cooling system from trash, dirt, debris, air, etc. associated with the existing building chilled water distribution system. The proposed design will include an assessment of appropriately placed strainers, air/dirt separators, or other appropriate technology to provide this level of protection.

ENERGY MANAGEMENT CONTROL SYSTEMS

The energy management control systems shall be designed to be fully compatible and to integrate with the existing campus energy management control systems. The energy management control system for the heating and cooling systems shall utilize an open protocol system that integrates with the existing campus Johnson Control system. The energy management control system for the electrical services shall utilize an open protocol system that integrates with the existing Square D Power Logic system.

CHILLED WATER SUPPLY TO 4-PIPE FAN COIL UNITS

The current plan is to utilize outside air energy recovery units for building outside air requirements. This will reduce some of the latent cooling requirements of the fan coil units. Additionally, due to the cooling coil options that are typically available with 4-pipe fan coil units, it is anticipated that the targeted chilled water flow and temperature difference requirements cannot

be achieved. As such, some design consideration should be given to the provision of a separate de-coupled chilled water loop for the 4-pipe fan coil units. The loop can be controlled based on chilled water return temperature. This will allow the building to maintain an appropriate level temperature difference and flow requirement for the district cooling system. The design team should provide an assessment of a separate chilled water loop for the fan coil units.

CONSIDERATION OF SMALL HEAT PUMP CHILLER

The occupancy of the existing and proposed Pomfret Hall facility includes significant hot water demands for showers, kitchen facilities, and small laundry facilities. As such, there could be a coincident need for both cooling and heating water in the building. Consideration should be given to the installation of a small heat pump chiller installation that allows for the recovery of compressor heat to make heating water for various applications.

ACT 1494 COMPLIANCE

During the last legislative session, House Bill 1663 was passed and signed into law which became Act 1494. The new Act requires all newly constructed state-owned buildings and existing state-owned buildings incurring major renovation achieve prescribed levels of energy efficiency and employ certain measurement and verification practices to validate such energy performance. The proposed energy management and control systems should included the capability to sub-meter building energy consumption and the energy consumption of various major energy consuming systems as required by Act 1494. The University will utilize these systems to measure, verify, and validate energy performance.

ADDITIONAL OWNER PROJECT REQUIREMENTS (OPR)

Below is a list of additional project requirements to be addressed as part of the Pre-Design Report.

- Additional electric power is needed in the Great Room on the glass side of the building.
- Remove old chiller equipment and associated auxiliary equipment.
- Owner would like to add data connections in common spaces.
- The design of the electrical system should consider dividing the electrical distribution system into separate panels for lighting, plug, HVAC, and process to provide for sub-metering of utilities serving mechanical equipment.

- Extensive and accurate as-built drawings should be provided to the building maintenance and utilities personnel.
- Interlock between open windows and fan coil units to prevent air handling units from operating when windows are open.
- Designers are to ensure sufficient access and clearances are provided by the design to perform routine maintenance tasks.
- Contractors shall coordinate the installation of building materials and components so as to allow sufficient space for maintenance and service without limited range of motion in the space which would require deconstruction to provide required service space.
- System manual shall include any changes made to components and systems after substantial completion and shall include the final set points established through the commissioning process.

H.3 Green Globes Worksheet

The attached checklist, the same list that is used by the 3rd party assessor when reviewing the project upon completion, will be assessed by the project team in evaluating the project potential for achieving Green Globe certification. Goal of the project is to achieve ***2 globes*** as identified by the evaluation system.

This checklist as well as documentation filed in the online assessment tool as the project progresses will help monitor the sustainability efforts with regard to its goals. This spreadsheet will serve as a guide during the design process and inform decisions made throughout the entire project thru the first year of occupancy.

An initial assessment of the project indicates that 63% of applicable points can be attained. This would achieve the **2 globes** goal set by the University as a minimum standard. It is possible that more points might be achieved throughout the design development, construction document and commissioning phases as actual data is logged.

GREEN GLOBES SUMMARY SHEET					
PROJECT MANAGEMENT POLICIES AND PRACTICES		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
A.1	Integrated Design Process	20	20		15
A.2	Environmental Purchasing (incl. energy efficient prodcts)	10	10		5
A.3	Commissioning Plan -- Documentation	20	20		20
TOTAL PROJECT MANAGEMENT POLICIES AND PRACTICES:		**50**	**50**	**80%**	**40**
SITE ECOLOGY		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
B.1	Development Area (site selection, devlpmnt density, site remediation)	30	20		20
B.2	Minimize Ecological Impacts	30	30		18
B.3	Enhancement of Watershed Features	20	20		12
B.4	Site Ecology Enhancement	35	15		5
TOTAL SITE ECOLOGY:		**115**	**80**	**69%**	**55**
ENERGY USE		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
C.1	Energy Performance	100	100		20
C.2	Reduce Energy Demand	114	106		85
C.3	Energy-Efficient Systems	66	66		49
C.4	Renewable Sources of Energy	20	20		10
C.5	Energy-Efficient Transportation	80	80		20
TOTAL ENERGY USE:		**380**	**372**	**49%**	**184**
WATER USE		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
D.1	Water Performance	30	30		24
D.2	Water Conserving Features	45	35		17
D.3	On-Site Treatment of Water	10	10		0
TOTAL WATER USE:		**85**	**75**	**55%**	**41**
RESOURCES, BUILDING MATERIALS & SOLID WASTE		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
E.1	Low Environmental Impact Systems & Materials	40	40		0
E.2	Materials that Minimize Consumption of Resources:	16	16		4
E.3	Reuse of Existing Buildings	15	15		5
E.4	Building Durability, Adaptability and Disassembly	14	14		7
E.5	Reduction, Reuse & Recycling of Demolition Waste	5	5		5
E.6	Recycling and Composting Facilities	10	10		5
TOTAL RESOURCES, MATERIAL & WASTE USE:		**100**	**100**	**26%**	**26**
EMISSIONS, EFFLUENTS & OTHER IMPACTS		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
F.1	Minimize Air Emissions:	15	15		15
F.2	Minimize Ozone Depletion	20	20		20
F.3	Avoid Contamination of Sewers or Waterways	10	10		10
F.4	Pollution Minimization	25	25		25
TOTAL EMISSIONS, EFFLUENTS, AND OTHER IMPACTS:		**70**	**70**	**100%**	**70**
INDOOR ENVIRONMENTS		POSSIBLE PTS	APP. PTS	%	ANTICIPATED SCORE
G.1	Ventilation:	55	50		50
G.2	Control of Indoor Pollutants	45	40		40
G.3	Lighting	50	50		45
G.4	Thermal Comfort	20	20		15
G.5	Acoustic Comfort	30	30		22
TOTAL INDOOR ENVIRONMENTS:		**200**	**190**	**91%**	**172**
TOTAL ALL CATEGORIES:		**1000**	**937**	**63%**	**588**

GREEN GLOBES WORKSHEET

PROJECT MANAGEMENT POLICIES AND PRACTICES		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
A.1	**INTEGRATED DESIGN PROCESS**	**20**	**20**		**15**
A.1.1	Use an integrated design process for the design development to identify functional and environmental priorities at eh initiation of the project, evaluate options and develop the design.	10			10
A.1.2	Solicit input from all members of the design team at each stage of the design process.	5			5
A.1.3	Use green design facilitation to support the integrated design process and involve team members throughout each stage of project delivery.	5			0
A.2	**ENVIRONMENTAL PURCHASING (INCL. ENERGY EFFICIENT PRODCTS)**	**10**	**10**		**5**
A.2.1	Apply environmental purchasing criteria (such as EPA Comprehensive Procurement Guidelines and/or GreenSpec®), including the procurement of energy-efficient equipment based on Energy Star and/or GreenSpec® menu and/or the Reference Specifications for Energy and Resource Efficiency..	10			5
A.3	**COMMISSIONING PLAN -- DOCUMENTATION**	**20**	**20**		**20**
A.3.1	Designer to produce a Conceptual Design Report.	8			8
A.3.2	Provide 'design intent' and 'basis of design' documentation.	6			6
A.3.3	Designer to establish design criteria to meet the functional and operational requirements of the building.	6			6
TOTAL PROJECT MANAGEMENT POLICIES AND PRACTICES:		**50**	**50**	**80%**	**40**

SITE ECOLOGY		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
B.1	**DEVELOPMENT AREA (SITE SELECTION, DEVELOPMENT DENSITY, SITE REMEDIATION)**	**30**	**20**		**20**
B.1.1	Demonstrate on the site plan how any portions of the site identified as being a wetland or wildlife corridor, agricultural land, parkland, or an area notable for its scenic beauty, will be fully preserved. Carry out all required environmental assessments.	10	NA		
B.1.2	Building Site Criteria (choose 1 of the 3 below):	10			
	• An existing serviced site?				10
	• A remediated, previously contaminated site?				
	• Land with an existing minimum development density of 60,000 ft^2/acre (i.e. two storey inner city development)?				
	• A new greenfield site?				
B.1.3	Is the site analysis data for topography, geology, soils, water features, drainage, vegetation as well as previous land use, being applied to the development of the site plan?.	10			10
B.2	**MINIMIZE ECOLOGICAL IMPACTS**	**30**	**30**		**18**
B.2.1	Provide a drainage and erosion/ sediment control plan that includes measures such as limiting grading, leaving steeper slopes undisturbed, avoiding soil compaction, and protecting vegetative ground cover. Include measures for the construction stage.	10			5
B.2.2	Provide natural cover including trees that within 5 years will shade at least 30% of impermeable surfaces. At minimum there should be one tree for every 100 SF of impermeable surface including parking, walkways and plazas. Where natural shading is not possible, install artificial shading such as covered walks, or light-colored, high-albedo materials (reflectance of at least 0.3) over the site's impervious surfaces.	10			5
B.2.3	Specify measures to reduce heat build-up on the roof, either by using high-albedo roofing materials (reflectance of at least 0.65 and emissivity of at least 0.9) for a minimum of 75% of the roof surface, OR by constructing a green roof, OR a combination of both high-albedo materials and green roof.	5			5
B.2.4	Minimize obtrusive aspects of exterior lighting (i.e. glare; light trespass and sky glow) as per optical design recommendations of the Illuminating Engineering Society of North America (IESNA), such that no light is emitted above a horizontal plane passing through bottom of the fixture; and less that 10% of emitted light shines within 10 degrees below the horizontal plane passing through bottom of the fixture.	5			3
B.3	**ENHANCEMENT OF WATERSHED FEATURES**	**20**	**20**		**12**
B.3.1	Provide a storm water management plan to prevent damage to project elements, including vegetation, on both the project site and those adjacent to it. Include an engineering design of the site drainage pattern including volume calculations and site management strategies. Aim for no increase in run-off. OR if the site already consists of more than 50% impervious surface in its predevelopment state, aim for a reduction of 25% in storm water run-off. Select below applicable site conditions:	10			

SITE ECOLOGY		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
B.3	**ENHANCEMENT OF WATERSHED FEATURES (CONT.)**	**20**	**20**		**12**
	• There is no storm water management.				
	• Storm water is directed to pervious areas.				
	• In the case of a site which was previously 100% pervious (green site), there will be no increase in run-off.				
	• In the case of a site whose pre-development impervious area is greater than 50% (site previously built on), the storm water control plan to achieve 25% decrease in storm water run-off.				5
	State the *pre-development* ratio of pervious to impervious area:	____%			
	State the *post-development* ratio of pervious to impervious area:	____%			
B.3.2	Provide measures to control run-off from the roof and direct it to a pervious area, OR a green roof. Select below applicable roof conditions:	10			
	• There are no specific measures to reduce, control or direct run-off from the roof.				
	• Run-off from the roof will be controlled and directed to a pervious area.				7
	• There will be a green roof.				
B.4	**SITE ECOLOGY ENHANCEMENT**	**35**	**15**		**5**
B.4.1	Are there strategies to enhance site ecology features or preserve or create natural habitat cores and corridors?	15			5
B.4.2	Remediate a brownfield site.	20	NA		NA
TOTAL SITE ECOLOGY:		**115**	**80**	**69%**	**55**

ENERGY USE		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
C.1	**ENERGY PERFORMANCE**	**100**	**100**		**20**
C.1.1	Achieve levels of performance better than that of a building meeting the 75% target defined by the EPA energy target finder:				
	• 5% or more	10			
	• 10% or more	20			20
	• 15% or more	30			
	• 20% or more	40			
	• 25% or more	50			
	• 30% or more	60			
	• 35% or more	70			
	• 40% or more	80			
	• 45% or more	90			
	• 50% or more	100			
C.2	**REDUCE ENERGY DEMAND**	**114**	**106**		**85**
C.2.1	**SPACE OPTIMIZATION**	**10**	**10**		**5**
C.2.1.1	Design floor area to efficiently fulfill the building's functional and spatial requirements, including circulation and services. Identify spaces that can accommodate more than one function or can be adapted to more or less intensive occupancy.	5			3
C.2.1.2	Where a building design is based on future projections of increased occupant population, phase the construction process, distinguishing between immediate functional needs versus long-term projected needs. Provide adaptable structure and services, and load-bearing capacity for future building expansion.	5			2
C.2.2	**RESPONSE TO MICROCLIMATE AND TOPOGRAPHY**	**24**	**16**		**8**
C.2.2.1	Use orientation and site features to optimize the effect of microclimatic conditions for heating or cooling.	8			4
C.2.2.2	Base decision on wind and snow control studies for areas where this could be a problem, develop strategies—including location, use of site topography and orientation—to minimize exposure to wind and accumulation of snow.	8			4
C.2.2.3	Develop a building form that, site permitting, can benefit from natural or hybrid ventilation to provide natural cooling during the time of year when outdoor air is cooler than indoor air.	8	NA		0
C.2.3	**INTEGRATION OF DAYLIGHTING**	**35**	**35**		**33**
C.2.3.1	Implement a fenestration strategy that maximizes daylighting through building orientation.	5			5
C.2.3.2	Implement a fenestration strategy that maximizes daylighting through window-to-wall size ratios.	5			5
C.2.3.4	Implement design strategies to bring light deeper into occupied spaces and provide uniform lighting.	5			3
C.2.3.5	Install window glazing which optimizes daylight (high visible transmittance, VT)	10			10
C.2.3.6	Install window shading devices that minimize heat transmittance and glare.	5			5
C.2.3.7	Integrate electrical lighting controls to adjust the electrical lighting in response to available daylight and/or occupancy.	5			5

ENERGY USE		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
C.2	**REDUCE ENERGY DEMAND (CONT)**	**114**	**106**		**85**
C.2.4	**BUILDING ENVELOPE**	**35**	**35**		**32**
C.2.4.1	Design building form and thermal massing to be used to minimize heat loss through the building envelope.	5			4
C.2.4.2	Design building's thermal resistance of exterior enclosure to exceed federal and state building energy codes for **walls & roofs** by 25-30% (per ASHRAE 90.1-2004).	10			10
C.2.4.3	Provide window glazing with a low U factor, and window treatments that enhance interior thermal comfort.	10			8
C.2.4.4	Design building to prevent groundwater and/or rain penetration into building.	5			5
C.2.4.5	Design building envelope using best air and vapor barrier practices to assure integrity with respect to the following:	5			
	• Air barrier materials meet the requirements of local and national building codes. (2 pts)				2
	• Drawings provide air barrier detailing between components of the building envelope and around penetrations. (1 pt)				1
	• Mock-ups and mock-up testing is required for air and vapor barrier systems. (1 pt)				1
	• Field review and testing is required for air and vapor barrier systems. (1 pt)				1
C.2.5	**INTEGRATION OF ENERGY SUB-METERING**	**10**	**10**		**7**
C.2.5.1	Provide sub-metering of major energy uses (such as lighting, motors, hot water heaters, boilers, fans, cooling and humidification plant, computers and catering facilities) in buildings greater that 50,000 SF.	10			7
C.3	**ENERGY-EFFICIENT SYSTEMS**	**66**	**66**		**49**
	Specify energy efficient lighting features such as the following:				
C.3.1	• Energy-efficient lighting fixtures & lamps	2			2
C.3.2	• Luminaires with electronic ballasts	2			2
C.3.3	• Task Lighting where suitable	2			2
C.3.4	• Lighting controls	2			2
C.3.5	• Co-generation integrated at the district or building scale.	5			5
C.3.6	• High efficiency (modulating or condensing) boilers or other high-efficiency heating system.	6			6
C.3.7	• High efficiency chillers	6			3
C.3.8	• Energy-efficient hot water service systems	4			3
C.3.9	• Building automation systems	8			8
C.3.10	• Heat pumps	5			0
C.3.11	• Variable speed drives on variable air volume systems	6			6
C.3.12	• Energy-efficient motors on fans/ pumps	6			6
C.3.13	• Energy-efficient elevators	4			2
C.3.14	• Other energy-saving systems or measures (i.e. displacement ventilation, cogeneration, heat recovery, desiccant humidification, etc.)	8			2

ENERGY USE		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
C.4	**RENEWABLE SOURCES OF ENERGY**	**20**	**20**		**10**
C.4.1	Specify if any renewable energy sources are to be utilized (select from below):	10			
	• Active Solar-heating				
	• High-efficiency, low-emission biomass combustion.				
	• Wind Energy				
	• Photovoltaic Panels				
C.4.2	What percentage of the building's total energy supply will be from building integrated or directly-connected renewable energy technology?	10			
	• More than 5% and less than 10% of total load				
	• More than 10% of total load.				10
C.5	**ENERGY-EFFICIENT TRANSPORTATION**	**80**	**80**		**20**
C.5.1	**PUBLIC TRANSPORTATION**	**60**	**60**		**0**
C.5.1.1	Provide access to public transportation within 500 yards of building, with service at least every 15 minutes during rush hour.	40			0
C.5.1.2	Designated preferred parking for car/van pooling, and shelter at pick-up and drop-off locations.	10			0
C.5.1.3	Provide an alternative fuel re-fueling facility(ies) on-site or in general vicinity.	10			0
C.5.2	**CYCLING FACILITIES**	**20**	**20**		**20**
C.5.2.1	Provide safe, covered storage areas with fixed mountings for securing bicycles.	10			10
C.5.2.2	Provide changing facilities or large washrooms for occupants to change from cycling wear to office-work apparel.	10			10
TOTAL ENERGY USE:		**380**	**372**	**49%**	**184**

WATER USE		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
D.1	**WATER PERFORMANCE**	**30**	**30**		**24**
D.1.1	Achieve water use targets (select one of 3 below):				
	• Less than 35 gallons/ft²/year OR Less than 66,000 gallons/apartment/year OR Less than 1,150 gallons/student/year	18			
	• Less than 20 gallons/ft²/year OR Less than 33,000 gallons/apartment/year OR Less than 900 gallons/student/year	24			24
	• Less than 10 gallons/ft²/year OR Less than 11,000 gallons/apartment/year OR Less than 720 gallons/student/year	30			
D.2	**WATER CONSERVING FEATURES**	**45**	**35**		**17**
D.2.1	**INTEGRATION OF WATER EFFICIENT EQUIPMENT**	**25**	**25**		**15**
D.2.1.1	Provide water sub-metering of water uses for high-water-usage operations or occupancies such as boilers, cooling tower make-up lines, water-cooled air conditioning units or special laboratory operations.	5			5
	Increase building water-efficiency through use of the following water-efficient equipment:				
D.2.1.2	• Low-flush toilets (less than 1.6 gallons/flush)	5			5
D.2.1.3	• Water-saving fixtures on faucets (2.0 gallons/min) and showerheads (2.4 gallons/min.)	5			5
D.2.1.4	• Waterless urinals or proximity detectors on urinals	5			0
C.2.1.5	• Water-efficient washing machines + low water dishwashers (8 gals) where applicable.	5			0
D.2.2	**MINIMAL USE OF WATER FOR COOLING TOWERS**	**10**	**NA**		**0**
D.2.2.1	Is air-cooling or desiccant cooling being considered?	5			
D.2.2.2	Where wet cooling towers are used, install features to minimize the consumption of make-up water	5			0
D.2.3	**MINIMAL USE OF WATER FOR IRRIGATION**	**10**	**10**		**2**
D.2.3.2	Select one of the options below if applicable:				
	- Specify irrigation system using a portion of non-potable water (e.g. captured rain water or recycled site water).	3			
	- Specify irrigation system using all non-potable water (i.e. captured rainwater or recycled site water).	5			
D.2.3.3	• Provide landscaping that can withstand extreme local weather conditions and require minimal irrigation.	5			2
D.3	**ON-SITE TREATMENT OF WATER**	**10**	**10**		**0**
D.3.1	Where feasible, integrate a greywater system to collect, store, treat and redistribute laundry & bathing effluent for toilet flushing, irrigation, janitorial cleaning, cooling and car washing.	5			0
D.3.2	Where feasible, integrate a biological waste treatment system for the site and building (such as peat moss drain field, constructed wetlands, aerobic treatment systems, solar aquatic waste systems, and composting or ecologically-based toilets).	5			0
TOTAL WATER USE:		**85**	**75**	**55%**	**41**

RESOURCES, BUILDING MATERIALS & SOLID WASTE		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
E.1	**LOW ENVIRONMENTAL IMPACT SYSTEMS & MATERIALS:**	**40**	**40**		**0**
	Has a preliminary lifecycle assessment been performed to compare the environmental burden and embodied energy effects of the following:				
E.1.1	• Foundation and floor assembly and materials.	10			0
E.1.2	• Structural Systems (column and beam or post and beam combinations) and walls	10			0
E.1.3	• Roof Assemblies	10			0
E.1.4	• Other envelope assembly/materials (cladding, windows, etc.);	10			0
E.2	**MATERIALS THAT MINIMIZE CONSUMPTION OF RESOURCES:**	**16**	**16**		**4**
E.2.1	Specify used building materials and components.	4			1
E.2.2	Specify materials with recycled content.	4			1
E.2.3	Specify locally manufactured materials that have been based on a life-cycle assessment (LCA) selected.	4			1
E.2.4	Use lumber and timer panel products which originate from certified and sustainable sources—certified by SFI, FSC, ATFS, CSA International Standard. Avoid tropical hardwoods, unless certified.	4			1
E.3	**REUSE OF EXISTING BUILDINGS**	**15**	**15**		**5**
	Select one of the following:	10			
E.3.1	• Retain min.50% existing facades in fully renovated bldgs.(5)				5
E.3.2	• Retain min.75% existing facades in fully renovated bldgs. (8)				
E.3.3	• Retain 100% existing facades in fully renovated bldgs.(10)				
E.3.4	Retain min 50% of existing major structures, other than the shell (i.e. walls, floors, and ceilings);	5			
E.4	**BUILDING DURABILITY, ADAPTABILITY AND DISASSEMBLY**	**14**	**14**		**7**
E.4.1	Specify durable, low maintenance building materials & assemblies that can withstand the following: sunlight, temperature and humidity changes, condensation, and wear-and-tear associated with the amount & type of traffic expected.	4			4
E.4.2	Implement a building design that promotes building adaptability.	5			3
E.4.3	Specify fastening systems that allow for easy disassembly.	5			0
E.5	**REDUCTION, REUSE & RECYCLING OF DEMOLITION WASTE**	**5**	**5**		**5**
E.5.1	Develop and implement a construction, demolition and renovation waste management plan.	5			5
E.6	**RECYCLING AND COMPOSTING FACILITIES**	**10**	**10**		**5**
E.6.1	Provide for adequate handling and storage facilities for recycling for future occupants to recycle materials.	5			5
E.6.2	Is there provision to compost organic waste?	5			0
TOTAL RESOURCES, MATERIALS & WASTE USE:		**100**	**100**	**26%**	**26**

EMISSIONS, EFFLUENTS & OTHER IMPACTS		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
F.1	**MINIMIZE AIR EMISSIONS:**	**15**	**15**		**15**
F.1.1	Specify low-NOx boilers and furnaces, which comply with ASTM standards.	15			15
	• Indicate Heat Input: _____BTU/hour				
	• Indicate Emissions: _____Lb/MBtu, _____ppm				
F.2	**MINIMIZE OZONE DEPLETION**	**20**	**20**		**20**
F.2.1	Specify refrigeration systems that avoid the use of ozone-depleting substances (ODS) and potent industrial greenhouse gases (PIGGs) in the cooling systems.	10			10
	• Indicate which refrigerant is specified: _____				
F.2.2	In the case of a new building or a retro-fit, where CFC (chlorofluorocarbon), HFC (hydrocfluorocarbon) or HCFC (hydrochlorofluorocarbon) refrigerants are specified, indicate below what will be their ozone-depleting potential (ODP)will be:	10			10
	• Higher than 0.05: _____				
	• Less than 0.05: _____				
	• Equal to 0.0: _____				
F.3	**AVOID CONTAMINATION OF SEWERS OR WATERWAYS**	**10**	**10**		**10**
F.3.1	Are design measures being taken to prevent storm sewer contamination of toxic or harmful materials (solids or sludge, floating debris, oil or scum) into public utilities.	5			5
F.3.1	Prevent wastewater discharges of toxic or harmful materials into public utilities.	5			5
F.4	**POLLUTION MINIMIZATION**	**25**	**25**		**25**
F.4.1	**INTEGRATION OF COMPLIANT STORAGE TANKS**	**5**	**5**		**5**
	Specify that soil and surface water contamination will be prevented. Ensure compliance with the nationally recognized standards - Underwriters Laboratory (UL), the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Society of Mechanical Engineers (ASME) or the National Fire Protection Association (NFPA).	5			5
F.4.2	**CONTROL OTHER POLLUTANTS (PCB'S, ASBESTOS, RADON, ETC)**	**10**	**10**		**10**
F.4.2.1	In the case of a retro-fit, all PCBs present in the building must meet applicable regulatory requirements.	2.5			2.5
F.4.2.2	In the case of a retrofit, the removal or abatement of asbestos must meet all applicable national, state, and local regulations.	2.5			2.5
F.4.2.3	Prevent the accumulation of harmful chemicals and gases such as radon and methane in spaces below the substructure, and their penetration into the building.	5			5
F.4.3	**INTEGRATED PEST MANAGEMENT**	**5**	**5**		**5**
F.4.3.1	Specify components, materials and the protection of structural openings to avoid infestation by pests.	5			5
F.4.4	**STORAGE & CONTROL OF HAZARDOUS MATERIALS**	**5**	**5**		**5**
	Design secure and appropriately-ventilated storage areas for hazardous and flammable materials?	5			5
TOTAL EMISSIONS, EFFLUENTS, AND OTHER IMPACTS:		**70**	**70**	**100%**	**70**

INDOOR ENVIRONMENTS		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
G.1	**VENTILATION:**	**55**	**50**		**50**
G.1.1	Provide ventilation in accordance with ANSI/ ASHRAE 62.1—2004, with the following features to avoid entraining pollutants into the ventilation air path.	10			10
G.1.2	Avoid entraining pollutants into the ventilation air path by:	10			
G.1.2.1	• To avoid re-entrainment, air intakes and outlets will be positioned at least 30 ft apart, and inlets will not be downwind of outlets. (3)				3
G.1.2.2	• Air intakes will be located more than 60 ft from major sources of pollution and at least the minimum recommended distances from lesser sources of pollution. (3)				3
G.1.2.3	• Air intake openings will be suitably protected. (2)				2
G.1.2.4	• Ventilation lining that will avoid the release of pollution and fibers into the ventilation air path. (2)				2
G.1.3	Verify that the ventilation system provides effective ventilation for acceptable IAQ, in accordance with ANSI/ASHRAE 62.1-2004?	10			10
	Indicate Ventilation Rate: _____cfm/person; _____cfm/ft^2				
G.1.4	Monitor indoor air quality either with CO_2 monitoring or digital electronic airflow monitoring.	5			5
G.1.5	Provide mechanical ventilation systems that allow the capability of flushing-out the building with 100% outside air at ambient temperatures above 32°F?	5			5
G.1.6	Provide mechanical ventilation for enclosed parking areas.	5	NA		0
G.1.7	Specify personal controls over ventilation rates either through operable windows, personalized HVAC controls or in naturally ventilated buildings, trickle vents on windows.	5			5
G.1.8	Specify filters with a Minimum Efficiency Reporting Value (MERV) of at least 13 (80-90% Dust Spot Efficiency) for air distributed to occupied spaces.	5			5
G.2	**CONTROL OF INDOOR POLLUTANTS**	**45**	**40**		**40**
G.2.1	Implement design measures to prevent the growth of fungus, mold, and bacteria on building surfaces and in concealed spaces.	10			10
G.2.2	Ensure easy access to the air-handling units (AHUs), facilitating their drainage and preventing the accumulation of debris.	10			10
G.2.3	Specify the use of humidifiers that are designed to avoid the growth of microorganisms.	10			10
G.2.6	Design and locate wet cooling towers in such as way as to avoid the risk of Legionella?	5	NA		
G.2.7	Provide a domestic hot water system designed to avoid the risk of *Legionella*?	5			5
G.2.8	Specify interior materials that are low-VOC emitting, non-toxic, and chemically inert.	5			5
G.3	**LIGHTING**	**50**	**50**		**45**
G.3.1	**DAYLIGHTING**	**10**	**10**		**10**
G.3.1.1	Provides ambient daylight to 80% of the primary spaces.	5			5

INDOOR ENVIRONMENTS		POSSIBLE PTS	APP. PTS		ANTICIPATED SCORE
G.3	**LIGHTING (CONT)**	**50**	**50**		**45**
G.3.1	**DAYLIGHTING (CONT)**	**10**	**10**		**10**
G.3.1.2	Building must achieve a minimum daylight factor of 0.2 for a partially lit work place or living/dining area, or 0.5 for a well day-lit work area. Indicate daylight factor:_____	5			5
G.3.2	**VIEWS**	**10**	**10**		**8**
G.3.2.1	Provide views to the building exterior, or to atria from all primary interior spaces.	5			3
G.3.2.2	Specify solar shading devices to enable occupants to control brightness from direct daylighting.	5			5
G.3.3	**LIGHTING DESIGN**	**30**	**30**		**27**
G.3.3.1	Provide light levels no less than those recommended in *IESNA Lighting Handbook, 2000*, for the types of tasks that are anticipated in the various building spaces (regardless of the amount of natural light).	10			9
G.3.3.2	Avoid excessive direct or reflected glare, as per *IESNA RP-5, 1999, Recommended Practice of Daylighting*.	10			9
G.3.3.3	Specify local lighting controls that relate to room occupancy, circulation space, daylighting and the number of workstations in office areas?	10			9
G.4	**THERMAL COMFORT**	**20**	**20**		**15**
G.4.1	Does the building design conform to the *ASHRAE 55-2004* for thermal comfort?	20			15
G.5	**ACOUSTIC COMFORT**	**30**	**30**		**22**
G.5.1	Building should be sited and spaces within the building zoned so as to provide optimum protection from undesirable outside noise, and fall within acceptable noise criteria (NC) ranges.	5			5
G.5.2	Specify an appropriate sound level transmission class rating for perimeter walls in response to outside noise levels. Indicate the sound transmission class (STC) rating of the walls: _____	5			3
G.5.3	Provide noise attenuation of the structural systems and institute measures to insulate primary spaces from impact noise? Indicate the Field Input Insulation Class (FIIC) value: _____	5			3
G.5.4	Specify acoustic controls to meet the acoustic privacy requirements.	5			4
G.5.5	Specify measures to meet speech intelligibility requirements for the various spaces and activities.	5			4
G.5.6	Assure that the design includes measures to mitigate acoustic problems associated with mechanical equipment and plumbing systems?	5			3
TOTAL INDOOR ENVIRONMENTS:		**200**	**190**	**91%**	**172**

K. SCHEDULE & PHASING

K.1 Project Schedule

K.2 Project Phasing

Schedule & Phasing

K.1 Proposed Project Schedule

May 2010 – August 2010	Maintenance Projects*
Sept. 2010 – June 2011	**Phase 1** (Wing A, B Bridge & Wing B1)
Sept. 2011 – June 2012	**Phase 2** (Wing B, Floors 2 - 8)
Sept. 2010 – August 2011	**Phase 3** (Wings C & D, All Floors 1 - 4)

* Maintenance projects may include rebuilding elevators in tower B, replacement or repair of some or all roofs A, B, C and D, removal of chiller unit and connection to district chilled water system.

K.2 Phasing Commentary -- General

PHASE 1:
Commons Areas in wing A including the Kitchen & Dining
Bridge Connector between wing A and wing B
First Floor of wing B

Renovation of wing A will require the relocation of the Honors College offices, housing staff offices and housing staff residences. Since the kitchen and dining areas will be out-of-service, alternate provision for meal service will be required. Al la carte continental breakfast could be set up for each residential wing and other meals can be served via residents traveling to other meal service venues on campus such as Brough Commons or the Northwest Quad.

First floor of wing B houses all of the apartments for housing staff, honors college faculty-in-residence and others. It also contains the fire pump and domestic water system connection to the building.

PHASE 2:
Renovate residential Tower B Floors 2-8

PHASE 3:
Renovate residential wings C & D

Renovation of a residence hall is typically scheduled as much during the summer months as possible to minimize downtime during the occupiable months of the academic session. Scheduling renovation activities will require pre-planning and protection of areas where residents access that might be in construction zones.

K.3 Phasing Commentary -- MEP

Wing A & First floor of Wing B to be renovated during phase 1.
Residential Wings B, C & D to follow in later phases.

Fire Protection

Wings B, C and D are currently protected by manual dry hose systems only and they are interconnected. These hose systems are supplied by two wall-mounted Siamese type fire department connections; one is located on the east end of Wing B and one is located on the north end of Wing C. Wing A currently has no fire protection of any type.

Hose systems have 4" vertical standpipes hidden within walls and plumbing chases, and supply 2½" hose valves with 2½ x 1½ reducers and 1½" x 100'- 0" hose rack assemblies within recessed hose cabinets. The hose cabinets also contain ABC fire extinguishers.

As the individual buildings are renovated, the hose stations and valves shall be removed and all existing system piping may be removed or abandoned within the walls and chases, either wholly or partially.

New standpipes and fire department valves shall be installed in the stairwells and automatic sprinkler systems shall be connected to the standpipes on each floor during each phase.

Phase 1 – Wing A:

1. Install new underground fire service main into the new fire pump room in Wing B.

2. Install new fire department connection line into the new fire pump room in Wing B.

3. Install new DDCA backflow preventer assembly, fire pump assembly and standpipe feed main to appropriate locations in Wings A, B, C, and D.

4. Demo existing standpipe piping in Wing A.

5. Plug or cap at appropriate location within Wing B, so as to leave Wing B supplied by its existing FDC connection.

6. Install new 6" sch.10 main reconnecting Wings C and D, so as to allow both buildings to be supplied by the single existing FDC on the north end of building C

7. Install fire sprinkler systems in Wing A.

8. Complete renovation of Wing A.

Phases 2 & 3 – Wings B, C, and D:

1. Demo existing manual, dry hose systems.

2. Install new fire extinguisher cabinets.

3. Install new fire protection standpipes and 2½" fire department valves in stairwells.

4. Install new fire sprinkler systems on each floor, connected to standpipes in the stairwells.

5. Complete renovation of Wings B, C and D.

6. Once the new buildings fire protection piping is in place, feed the new fire protection in Wings B, C and D from the fire protection standpipes installed during phase 1.

7. Abandon 6" sch.10 pipe that connected Wings C and D. Cap at each end and identify as "Abandoned FDC Line".

Mechanical Systems

Phase 1 – Wing A: HVAC

1. Demo area designated for the new mechanical room.

2. Construct new mechanical room.

3. Install new Chilled water line from the chilled water district to new mechanical room.

4. Route utility lines serving the building to the new mechanical room.

5. Install new equipment in the new Mechanical room.

6. Re-feed Wings B, C, and D from new Mechanical room. (include new filter system to avoid contamination of new pipes)

7. Place future geothermal piping above ceiling and cap for future connections to Wings B, C and D.

8. Install new Air handling units serving Wing A on the roof and route existing ductwork to new units.

9. Schedule existing mechanical room shutdown.

10. Demo existing mechanical equipment located in the existing mechanical room.

11. Complete renovation of Wing A.

Phase 2 – Wings B, C, and D: HVAC

1. Install geothermal wells.

2. Install geothermal wells pump system in the new mechanical room.

3. Complete renovation of Wings B, C and D.

4. Once the new building piping is in place, feed the new mechanical units in wings B, C and D from the geothermal pump system. Utilize geothermal piping installed during phase 1.

Phase 1 – Wing A: Plumbing

1. Demo area designated for the new mechanical room.

2. In new mechanical room install new plumbing equipment in new mechanical room. Existing water meter and back flow preventers will be moved. Construction of water entrance shall be completed and scheduled so that water service interruption will be a minimal amount of time.

3. Route new water lines from new mechanical rooms to Wings B, C and D and be connected to provide uninterrupted service. New valves will be installed in the corridors between Wing A and the other areas so that in future phasing access to Wing A will be limited.

4. Demo existing equipment from existing mechanical room.

5. As existing drain, vent, water and gas piping are over 20 years old; all piping in Wing A shall be replaced with new piping.

6. Complete renovation of Wing A w/new piping & equipment.

Phases 2 & 3 – Wings B, C, and D: Plumbing

1. Wings B, C and D are already fed from Wing A with new valves and piping.

2. Demo existing fixtures and any plumbing equipment in areas.

3. As existing drain, vent, water and gas piping are over 20 years old; all piping in Wings B, C and D shall be replaced with new piping.

4. Install new fixtures and piping.

Electrical System

Phase 1 – Wing A:

1. Demolish area designated for the new main electrical room, emergency power room and main telephone / IT / CATV rooms.

2. Construct new main electrical room, emergency power room and main telephone / IT / CATV rooms.

3. Install new Electrical service transformer outdoors and route electrical service conductors to new electrical room. Route service conductors from generator site location to new emergency power electrical room. Route fiber service conductors to new IT room.

4. Install new equipment in the main electrical room, emergency power room and main telephone / IT / CATV rooms.

5. Run temporary service feeders from new switchboard to existing electrical closets in Wings C and D. Provide spare conduit to electrical closet for future feed to Wing B.

6. Feed all new mechanical equipment located in new mechanical room.

7. Install Generator.

8. Install all feeders from service transformer secondary to main switchboard.

9. Coordinate power shutdown. Disconnect power from existing service and connect to new service transformer. At the same time make connections to stacked electrical closets in Wings C and D.

10. Switchover fiber and CATV service to new IT room.

11. Demo existing electrical equipment located in the existing mechanical room.

12. Demo existing generators

13. Complete renovation of Wing A.

Phases 2 & 3 – Wings B, C, and D:

1. Construct new electrical closets.

2. Install new equipment in the electrical closets.

3. Install feeder conductors, utilizing the existing spare conduit installed during Phase 1 to the electrical closet in Wing B from new main electrical switchboard located in Wing A.

4. Connect wing distribution panels located in electrical closets on the 1st floor of Wings C and D to the main electrical switchboard utilizing the existing feeder that was installed to provide power to the existing electrical closets during Phase 1.

5. Demo existing electrical equipment located in the existing electrical rooms.

6. Complete renovation of Wings B, C, and D.

L. APPENDIX

L.1 Finish Schedule

L.2 Meeting Notes

L.3 Design Alternatives

L.4 Charrette Record

90% SCHEMATIC DESIGN REVIEW Meeting Notes – STEERING COMMITTEE

Project:	University of Arkansas - Fayetteville Renovation of Pomfret Honors Quarters	***Date:***	November 3, 2009; 9:30 am - 12:00 noon
Project No:	TA Project #50509.01 WDD Project #09024	***Location:***	FAMA 103
Distribution:	Steering Committee, Design Team, File, ListServ		
Attendance:	SEE ATTACHED LIST AT END OF THIS DOCUMENT		

NOTES:

Review of progress on schematic design activities was lead by architect Richard Alderman, Wittenberg Delony & Davidson. Review of design was lead by Joe Stramberg and Nadia Zhiri, Treanor Architects.

DESIGN PARAMETERS:

- Design parameters as defined by Facilities Planning and Management – focus design effort on entry sequence at the A wing (public and common areas) and simplify alterations to the residential wings B, C and D.
- Work with design of 60's architecture exhibited in existing structure, massing, volume and building hierarchy. Emphasize A-wing as the center of the complex with residential wings as support.
- Concepts of Wing A:
  - **TRANSPARENCY**,
  - Expressive of **HEART of Living Learning**
  - Work with **Volume of the Great Room** to enlarge the feel of the Living Learning on 2nd level.
  - Use of the **Roof as an Elevation**, visible to public; penetrate with skylight and/or light monitors for daylighting below.

REVIEW OF ELEVATIONS – SCHEME 1:

- **A-Wing**: Maintain existing plane of front with columns expressed on exterior.
- Use of patterned glass, randomly placed and window mullions for texture.
- Infill solid areas of 'public' wing with contrasting material to existing brick, i.e. limestone, precast, other, to signify difference in function.
- **C and D-Wings** (Courtyard wings): Use window framing system for infill with spandrel at lower wall. Color to match natural metals on other areas as building.
- Use vegetative buffer to screen lower level windows from public view.
- Courtyard to be terraced and landscaped.
- **B-Wing** (Tower): Pattern of infill glazing will be similar to wings C and D.
- Lower level will utilize similar glazing system but combine storefront and operable windows.
- Elevations will express 'overall' pattern as opposed to emphasizing a top and bottom to the tower.
- Summary: Transparency to A-wing and simplify wings B, C and D.

REVIEW OF ELEVATIONS – SCHEME 2:

- Same general concept as scheme 1 with different wall plane and patterning of windows.
- **A-Wing**: Wall plane is shifted to outside to encompass columns; entire north face of building clothed in glazing system.
- Less patterning in glazing system – more uniform.
- Masonry base (stone, precast, other) with glazing system projecting outward.

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- Roofscape accentuated with light monitors in sculptural forms.
- Roofscape along north side of A wing to incorporate clearstory along length allowing natural light penetration into hallway below.
- Entry design is a simple glass box with red accent.

SOLAR CONTROL OPTIONS:

- Different treatment for different orientation.
- West elevations to receive vertical shading devices. Options for hanging differently.
- Stainless steel mesh is another option for solar control. This option allows slightly more privacy during nighttime hours.

UNIVERSITY COMMENTS on ELEVATIONS:

- Randy (Housing Director) expressed a preference for Option 1 building entry. Also recommended continued work on the window pattern(s).
- Maribeth and Carol (Honors College) expressed preference for Option 1. However they like the clearstory roof at the entry hallway on Option 2 so a hybrid would be their recommendation.
- They also suggested adding a glass back to the front stair for verticality.
- Todd suggested that the glass pattern appears a reinterpretation of a medieval glass pattern (referenced Rhodes College and the Memphis Library).
- He also suggested that the light monitors on the roof of wing-A be scaled down. Recommended more North light. Expressed apprehension for the 'hats' on the light monitors.

FLOOR PLAN MODIFICATIONS/ REVIEW:

- Modifications have been made to the connector between wings A and B. The ramp was shortened and moved to the B side of the connector--this allows for a seating/lounge beside circulation path.
- Doors on the connector have been moved into the B wing such that security occurs on the residential side of the connector.
- Floor lounges have been reduced to 1 per floor in all residential wings.
- Rec Room seating has been modified to provide more privacy and acoustic separation for the TV room; walls enclose the TV room and a door has been added.
- Private dining rooms -- walls are collapsible including those separating the two rooms from the corridor to allow for the rooms to be fully opened up to the main dining area.
- Servery openings need to be studied carefully so that finish on the moveable openings are similar materials and textures of other finishes in the Great Hall.
- Changes have been made to the floor lounges in the residential wings to enclose them from the hallway. Glazed separation for transparency provides visual connection but also some acoustic separation.
- The kitchen and laundry rooms have been combined into a single room on the floor, directly across from the floor lounge. The intent is to create a 'zone' in the floor center where social activity and connections can occur.
- Corridor on the first floor of B-wing is now more linear and on more direct axis with the great room.
- North end of the second floor of the bridge connector between wing-A and wing-B is somewhat constricted at a point where a great deal of traffic from the B-wing will be passing. This should be reviewed for correction. Work to be done with Nabholz to determine if re-building the connector to correct is cost effective.
- Second floor A-B connector—make windows higher so that occupants cannot look down into staff apartment exterior courtyard.
- Second floor Living Learning overlay--Video Production room has been switched with the Faculty Involvement office to allow natural light into the office.
- The Honors College office area has been re-worked per their recommendations.

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- Maribeth recommends that Faculty Involvement office become more transparent along the corridor to allow visibility by students; work stations can line the back and side walls; also need lockable areas for office.
- Intermittent glass along the front, sides and back of the CLC (Community Learning Center) allows visibility into at the same time adds to the transparency of the A-wing. This is an area where the glass patterns from the north side of the great hall can be repeated, reinforcing the new language of the elevation. Bringing the exterior to the interior.
- Todd suggested a that the CLC might become sculptural.

REVIEW OF INTERIOR CONCEPTS:

- Positive response to interior concepts presented for the great room.
- Lynne suggested some variation in seating other than exclusively community tables, i.e. bar seating for single diners or pairs.

REVIEW OF MEP SYSTEMS

- Hamid Habibi, TME described the geothermal proposal that would involve the residential wings only—A wing would be connected to the district chilled water system. 3 options were shown to indicate the extent of area required for the wells fields for the residential wings.
- Decision of geothermal versus district water involves a discussion of future land use. Wells can be installed in current areas of parking lot but this inhibits the future development of that property. District system has no known limits.
- If phasing starts with the A-wing, the decision about geothermal can be delayed for a time. Tapping onto district chilled water line to supply A-wing can be maximized for the entire building until a decision is made as to which way to go in future.
- Randy suggests claiming the required area for geothermal and let others in University system reject.

REVIEW OF PHASING, SCHEDULE AND COST

Review of phasing, schedule and cost was lead by Jon Pahl from Nabholz Construction.

- Option 1 Phasing:
  - **Phase I**--Start construction as soon as possible in **May 2010** on the first floor of the A-wing. Dining and food service would remain as existing during Phase I. Construction this phase to last **8 month**s. Complete in December 2010.
  - Protected access for students to dining to be constructed through construction zones.
  - Move kitchen and dining to lower level in January, 2011 during semester break. Fully functioning kitchen/dining beginning Spring 2011 semester.
  - **Phase II**--Start construction in **Jan 2011** on second floor of the A-wing. Construction this phase to last **7 month**s. Complete in September, 2011.
- Option 2 Phasing:
  - Basically same schedule as option I only Kitchen and Dining to be included in renovation.
  - Taking food service out of commission in Pomfret during renovation of A-wing will shorten construction time by approx. 3 months but alternate dining solutions for residents will have to go into effect. Option 2 could amount to $350,000 savings over Option 1.
  - Dining options such as continental breakfast and deli lunches, served in residential wings, should be investigated for this option.
- Phasing Discussion:
  - Option 1 duration is 15+ months for construction; option 2 is 12 months.
  - Option 1 requires a quick turnaround for design and construction documents so that construction orders can be placed beginning in March 2010. Asbestos abatement in A-wing

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and in the main mechanical room would need to start during semester break, 2009/2010.
- Bob and Randy agreed that it is unlikely that construction could occur prior to Fall semester 2010.
- Randy prefers option 2 where all renovation is done at same time and construction time is shortened.
- Asbestos abatement in residential wings can be accomplished in intermittent projects during academic breaks in schedule until renovation there can start.
- Randy would like to look at including Hall Director and GA apartments (first floor B-wing) in Phase I solution.
- Randy and Lynne will review costs and housing contract already in place for the upcoming school year. Will also evaluate when increase in room price should go into effect.

REVIEW OF PROJECT COST

- Project estimates @ $15,000,000 for renovation of A-wing. This amount does not include cost of design and renovation of kitchen.
- Would need to evaluate if existing kitchen equipment could be re-used or if new purchase would be required.

LOOK AHEAD

- Design Review Board to meet November 17th – Design to be presented for their comments and approval.
- Schematic Design to be wrapped up by end of November and submitted to steering committee.
- Design Development to begin upon approval to proceed by FAMA.

These notes are the Architect's record of this meeting. If any additions or corrections are required please contact Richard Alderman at Wittenberg Delony and Davidson Architects at 479/442-6681, within two weeks.

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Attendance Record

90% SCHEMATIC DESIGN REVIEW Meeting Notes – STEERING COMMITTEE

Design Team:

Richard Alderman (RA) - WD&D Architects
Christie King (CK) - WD&D Architects
Eliot Neal (EN) – WD&D Architects
Joe Stramberg (JS) – Treanor Architects
Nadia Zhiri (NZ) – Treanor Architects
Hamid Habibi (HH) – TME, Inc.
Colin Mayer (CM) – TME, Inc.

Other:

Jay Holstead (JH) – Comfort Systems, USA (Commissioning Agent)
Jon Pahl (JP) – Nabholz Construction (Contractor)

University of Arkansas Housing:

Randy Alexander - Director of Housing
Jerrid Freeman - Housing
Lynne Williams - University of Arkansas Housing
Bob McMath –Honors College Dean
Carol Gattis - Honors College Associate Dean
Maribeth Lynes - Honors College Recruiting
Dan Street - FAMA
Jay Huneycutt – FAMA
Todd Fergusen - FAMA
Jill Anthes - FAMA

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TME Consulting Engineers
TME Energy Services

Northwest Arkansas
2039 Green Acres Road
Fayetteville, Arkansas 72703
Tel: 479.521.8634
Fax: 479.521.1014

FHA Structural Engineers

1423 Broadway Street
Little Rock, Arkansas 72202
Tel: 501.374.0038
Fax: 501.374.0048

Meeting Notes

Date:	11/18/2009 (Revised 11/23/09)
Participants:	Richard Alderman –WD&D, Jeannie Robinson-Treanor Architects, John Pahl & Ann Miller - Nabholtz
Project:	Pomfret Hall
Project #	0409-0007
Ref:	Inclusions for SD Pricing
Submitted By:	Colin Mayer-TME

1. A pavilion will be located at street level at the main entrance, on east side of the building; pavilion to include accessibility lift and bus stop waiting.
2. An alternate ramp solution will be designed for review by Owner; if approved, the ramp would eliminate the need for an exterior lift for accessibility and the pavilion would not be necessary.
3. There will be significant grading/site work along the east side of the building at the courtyard outside the Dining Hall and in the courtyard between buildings C and D.
4. Site work along the west side of the building will be required to bring new utilities to the building.
5. Constructed skylight monitors will be built on the roof of wing-A to provide natural daylighting.
6. The budget figure presented to owner needs to be near the target budget figure.
7. The design team is to review the SD cost estimate prior to presenting to the owner (design team review scheduled for 12/8).
8. A green roof installed on building A and C will be priced as a separate line item and shown as add alternates.
9. A curtain wall system will be used on the exterior of building A.
10. Building A will require major demolition. A majority of the walls will be demolished and rebuilt.
11. The rooms of the residence wings will have a storefront set into the existing masonry opening.
12. The rooms of the residence wings will have operable windows.
13. The existing roof hatches will remain to provide access to the roof.
14. There is adequate load capacity in the center of wing-A for equipment shown.
15. New site lighting will be provided at the east main entrance, in the courtyard area between buildings C and D and around the perimeter of the building.
16. Existing parking lot lighting to the north and west should not be affected by construction activities. In the event that some parking lot lights, closest to the building, are disturbed by the construction they will be replaced with new fixtures.
17. Energy efficient glass will be utilized throughout building, with a special ‘ultra clear’ glazing on A wing.
18. Anticipated demolition for wings B, C and D is that a majority of the walls will be demolished and rebuilt, however this will be dependant on the direction the University takes with regard to asbestos removal in these wings. Minimal asbestos abatement may demand more selective and careful demolition so as to not effect ACM in place.
19. Plans need to include a closet for elevator controls.

TME, Inc. **Design Team Meeting Notes** **11/18/2009**

20. TME may want to look at "chilled beam" solution for heating/cooling student rooms – will review system for this application. Student rooms presently have operable windows.
21. Need to include an interior RPZ for site irrigation and for the fire pump.
22. TME recommend switching the Electrical and Fire Pump Rooms on 1st floor of B-wing for exterior entrance to Fire Pump room (TME will send plan changes).
23. Schedule of future deliverables:
    a. 11/23-11/24: WD&D will issue final SD drawings
    b. 12/7: Nabholtz will email new pricing
    c. 12/7-12/8: New pricing will be discussed prior to presenting to owner.
    d. Pricing to be presented to UAF in final Schematic Design document.
24. Pricing is to be broken down as follows:
    a. Area A and the area on the 1st floor of B that is to be included in 1st phase (Hall Coordinator/Director apartments and mechanical spaces.)
    b. B Tower – residential floors 2-8 and remainder of 1st floor.
    c. C Tower
    d. D Tower
25. Escalation factors for delayed construction bid date are to be addressed in pricing.
26. Areas identified by UAF that need to occur in the short term are:
    a. Roof(s) replacement,
    b. Demolition of chiller,
    c. Connection to the district chilled water system and
    d. B-wing elevator upgrades.
27. Nabholtz to work with TME to develop MEPF schematic design pricing.
28. Nabholtz to coordinate pricing with TME the week of 11/30.
29. Drawings included in the SD package will be 11x17 along with separate printed sheets for Housing staff at 1/16" scale. All drawing sheets to be same scale.
30. SD submittal will be 8-1/2 x11 format with drawings on 11x17 sheets.
31. TME will include drawings of the roof, mechanical spaces, electrical spaces and site of the generator and service transformer.

90% SCHEMATIC DESIGN REVIEW Meeting Notes – DINING & FOOD SERVICE

Project:	University of Arkansas - Fayetteville Renovation of Pomfret Honors Quarters	***Date:***	November 18, 2009; 1:00 am - 2:00 PM
Project No:	TA Project #50509.01 WDD Project #09024	***Location:***	ARKU 401
Distribution:	Attendees, Steering Committee, Design Team, File, ListServ		
Attendance:	SEE ATTACHED LIST AT END OF THIS DOCUMENT		

NOTES:

INTRODUCTION:

Review of status of project and plans for completion of the Schematic Design phase of the project was lead by architect Richard Alderman, Wittenberg Delony & Davidson. Highlights of the introduction include:

- Explanation of Pomfret plans and where Dining and Food Service are located in building.
- Description of GREAT HALL concept and how it is to be executed by moving Kitchen/Dining services to lower level and into two-story open space.
- Explanation of Honors College goals and how they tie into GREAT HALL concept;
- Focus of phase I construction will be the building center or the 'A' wing which houses the public and common spaces of the building;
- Goals of this meeting include coming away with an understanding of how the design team might be able to work with Chartwells in the design of the Dining and Food Service areas, Chartwells' capability to complete the dining and food service components of the project, and their help in evaluating costs associated with equipment for the facility.

BRIEF REVIEW OF DINING & FOOD SERVICE PLANS-Chartwells Comments:

- Receiving Office needs to be located by Loading Dock.
- Opportunity Buys room will be a built-in freezer. Suggested a wide 'barn door' for room access. Use of pallet jack for moving supplies should be accommodated.
- Question about ceiling heights on lower level. Was their sufficient ceiling height to accomplish what they needed to do on the lower level? Responded that upper level ceiling height allows less vertical height than the lower level. *(Lower level offers 13'-3½" from floor to bottom of slab, whereas existing dining/kitchen height is 10'-8 3/8" from floor to bottom of waffle slab beam).*
- Chartwells commented that the restrooms for staff seem too large—they may wish to adjust. JR explained that they were patterned off existing with lockers -- response was that lockers are not used and they wish to eliminate.
- There was a question about if there would be access from the dining room to the adjoining East courtyard and the answer was YES, although current plans don't show the doors. BZ and LW indicated they don't believe allowing access to the courtyard for dining will work unless the student is not allowed to return to the dining room once they've left the building.
- LW, BZ and SA all indicated that although the community tables will work for some, there will always be the single or paired diners who want to sit by themselves or eat and study/read at the same time. They would like to see a variety of seating options throughout the dining areas.
- Question concerning the intent of the dining room storage, resulted in a conversation about types of dining room seating—would they be folding tables and chairs? Newer dining facilities on campus don't use collapsible furniture or stackable furniture.
- The picnic table at the NW Quad have been very successful but those would be very difficult to

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store if the intent was to totally clear the room of furniture for an event.

- The dishwashing area was questioned—you really don't want diners coming back into the servery area to return dishes. This should be located toward the entrance of the room and traffic should not conflict with those attempting to be served.
- If the custodial, cleaning/chemical equipment and cash wrap rooms are theirs to work with, they will likely switch them with the dishwashing area.
- There also needs to be a bussing area at the front of the House. This is an evolving concept that may not be in existing facilities but as Chartwells perfects their services, it is something they see a need for.
- Chartwells asked about steam to the building. Their preference is for steam in dishwashing instead of electric—this will need to be discussed internally.
- Question to Chartwells concerning which equipment needs to be on emergency generator: all freezers/coolers. They will have to evaluate internally if it would be desireable for other equipment to also be on the emergency system. This may depend on disaster plans for the University as a whole as in the ice storm last year. They may choose to use Bud Walton Arena as staging and use Pomfret for food service. Will need to research.

REVIEW OF CHARTWELL SERVICES:

Chartwells has the ability to do a turnkey project and they are interested in going forward with this project. They will do the following in the next few days/weeks:

- Evaluate their approach to the project;
- Take a look at floor plans and make suggestions as to further schematic alterations that might be appropriate for the dining and food service areas;
- Develop an equipment list and costs associated with the project;

IMMEDIATE NEEDS:

- Send Autocad Plans to Steve Anderson at beginning of next week.
- Send pdf plans to remainder of the DINING & FOOD SERVICE team.

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Attendance Record

90% SCHEMATIC DESIGN REVIEW Meeting Notes –DINING & FOOD SERVICE

Design Team:
Richard Alderman (RA) - WD&D Architects..... alderman@wddarchitects.com
Jeannie Robinson (JR) – Treanor Architects..... jrobinson@treanorarchitects.com

University Dining & Food Service:
Lynne Williams - UofA Business Services.....lynnew@uark.edu
Morgan Stout – UofA Director of Operations, Chartwells .....mstout@uark.edu
Jack Ervin – UofA Director Culinary Services, Chartwells.....jrervin@uark.edu
Bill Zemke – UofA Director Dining & Food Service; Chartwells.....bzemke@uark.edu

University Housing:
Randy Alexander – Director of Housing ..... lonestar@uark.edu

Others:
Steve Anderson (SA) – Compass/Novis Group ..... steve.andersen@compass.usa.com

Contractor/Building:
Steve Marshall - Nabholz Construction ..... steve.marshall@nabholz.com
Jon Pahl - Nabholz Construction ..... jon.pahl@nabholz.com
Ann Miller - Nabholz Construction ..... ann.miller@nabholz.com

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Design Alternatives –

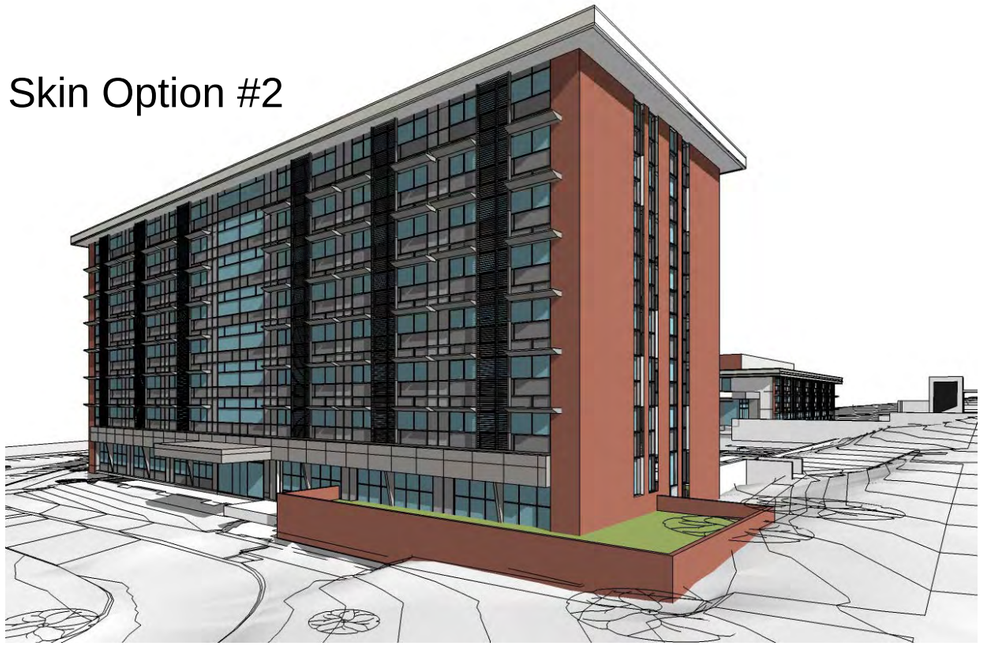
Proposed Building Exterior Concept – Design Guidelines:

- **University of Arkansas Concept Guidelines—**
  - Simplicity of Form
  - Restraint of Articulation
  - Simplicity of Scale
  - Forms which reinforce campus open space structure
  - Regular spaced, well proportioned window/door openings;
  - Human-scale façade proportions
  - Balance expressiveness with contextual responsibility;
  - Buildings should enhance and elaborate the civic qualities of the public outdoor spaces of the campus.
- University of Arkansas **Building Material Guidelines**—
  - Use of Durable materials
  - Muted Colors
  - Patterns—any brick / masonry pattern should be subtle;
  - Metal—used in limited areas and/or for details, not as principle façade material;
  - Glass-use of curtainwall should be limited to entries, public lobbies,bays, etc. which punctuate the solid materials of façade.

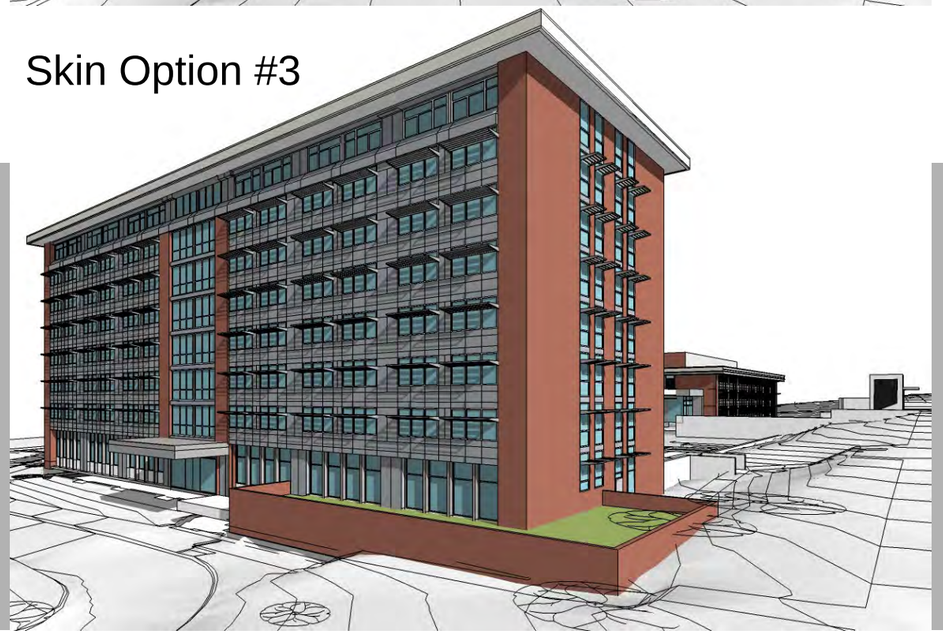
Design Alternatives – Exterior Facade

Skin Option #1

Skin Option #2



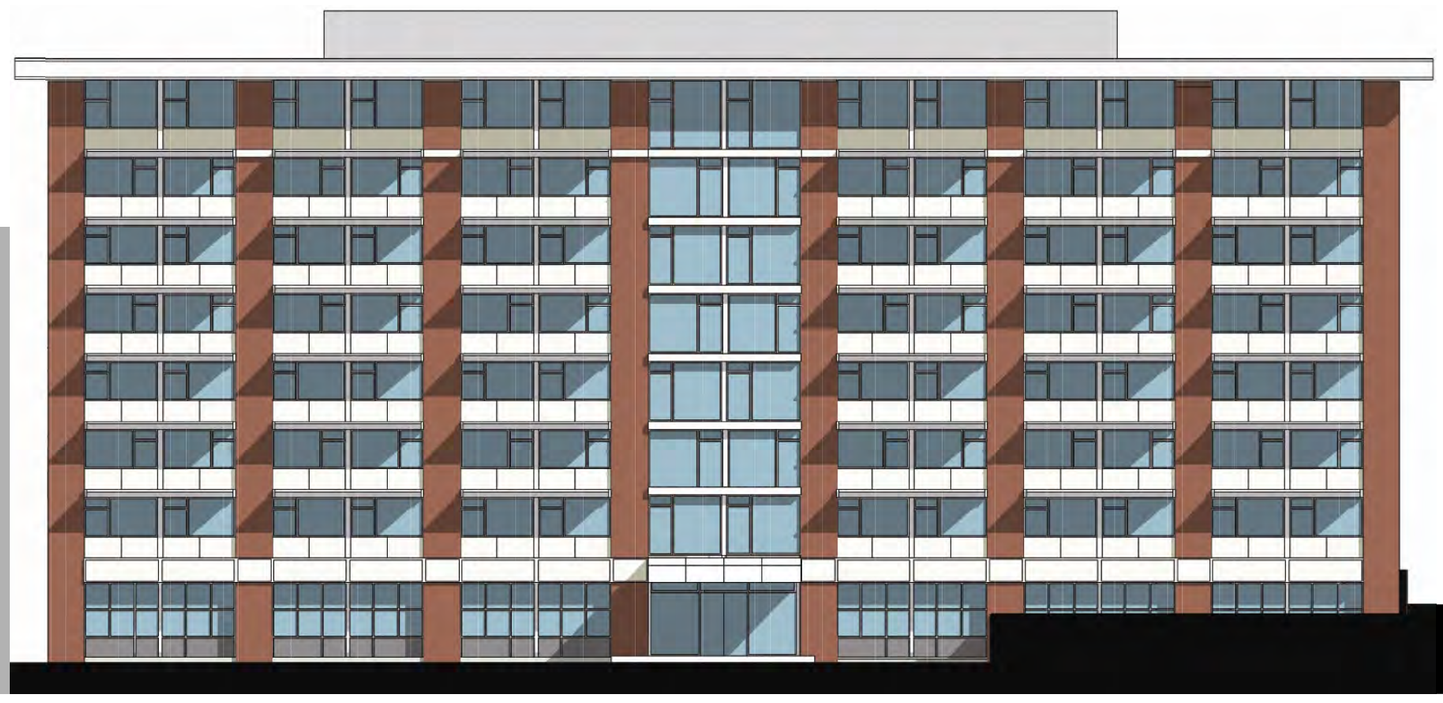
Skin Option #3



Skin Option #3

Building Exterior Development Process & Alternatives:

- Skin Option #4 – Delineation of residential wings with emphasis on predominant architectural features: tower, glass front, and entry.

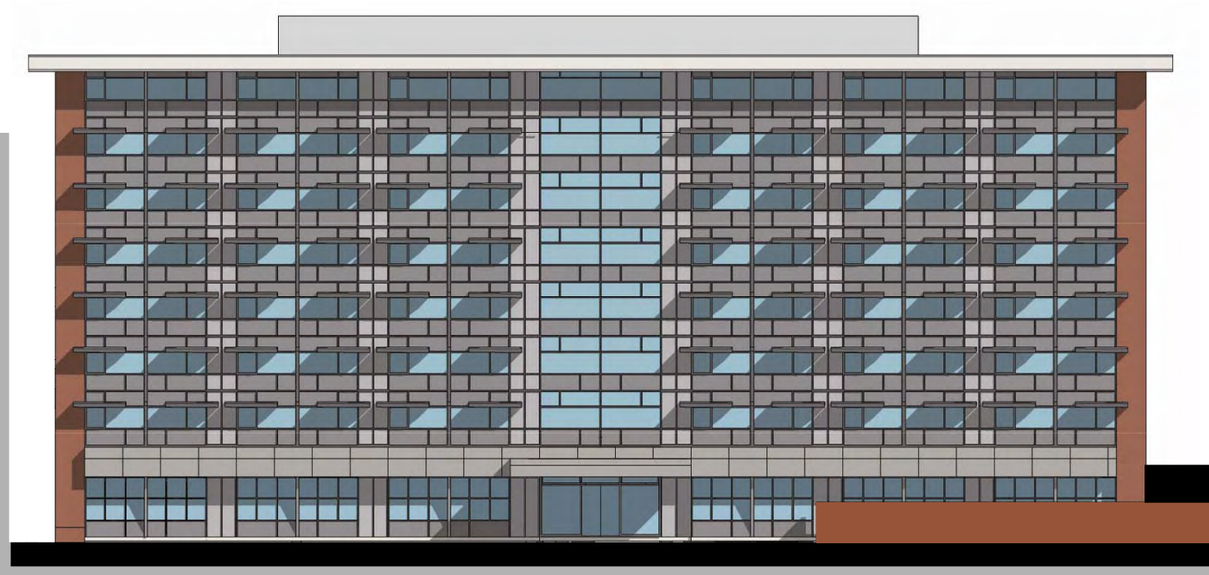


Tower concept:

- Base (1st floor apartments) with distinctive glazing from upper level student rooms;
- Center of Tower (residential floor lounge) glazing distinguished from room glazing;
- Horizontal masonry for lower wall of student room gives distinctive break to brick vertical elements.

Skin Option #4a –

- Tower concept: Top, base, center;
- Base—Storefront look, top to bottom glass;
- Center-Clad center brick with similar material as horizontal floors & accentuate corners/entry;
- Top—Appearance of being lighterweight-continuous horizontal, stop center brick at top floor-framed by corners;
- Elevation broken in center-delineating residential floor lounges each floor.

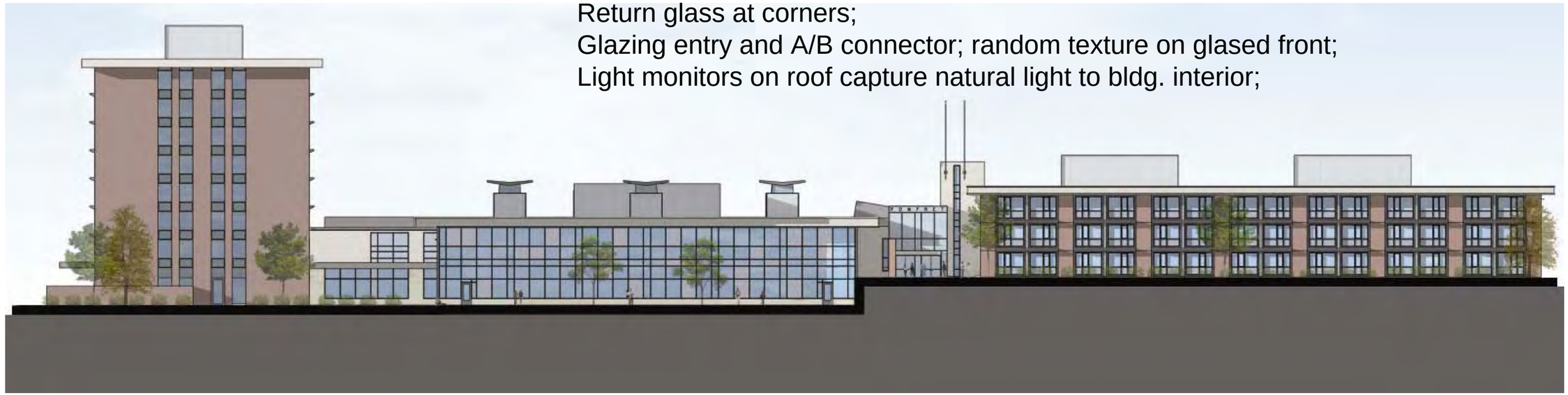


Skin Option #4b –

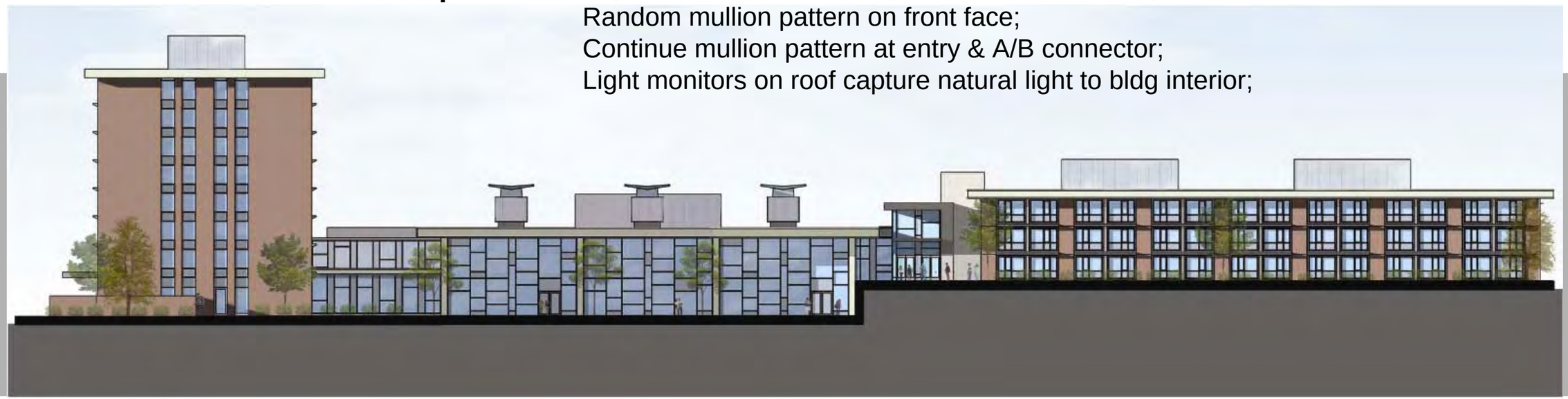
- Tower concept: Top, base, center;
- Metal clad columns, floor slabs & walls below windows;
- Corners retain brick masonry of original;
- Linear/ Horizontal mullion pattern;
- Elevation center delineated at residential floor lounges each floor but more integrated in overall elevation.

Building Exterior Development Process & Alternatives:

Skin Option #5 – Move glazed front of A-wing to outside of columns;
Return glass at corners;
Glazing entry and A/B connector; random texture on glased front;
Light monitors on roof capture natural light to bldg. interior;



Skin Option #6 – Express columns of A-wing on exterior as existing;
Random mullion pattern on front face;
Continue mullion pattern at entry & A/B connector;
Light monitors on roof capture natural light to bldg interior;



Charrette Record – Schematic Design Workshop Schedule

Charrette Schedule--SCHEMATIC DESIGN

Pomfret Honors Hall, University of Arkansas

SCHEDULE DATE (8-7-09)

	SUNDAY AUG 30	MONDAY AUG 31	TUESDAY SEPT 01	WEDNESDAY SEPT 02	THURSDAY SEPT 03	FRIDAY SEPT 04	Groups
		BREAKFAST	BREAKFAST	BREAKFAST	BREAKFAST	BREAKFAST	
8:00		TREANOR TEAM MEETING	TREANOR TEAM MEETING	TREANOR TEAM MEETING	DESIGN TEAM MEETING (TA, WDD, TME, ECI)	PRODUCTION	STEERING COMMITTEE Treanor Architects, WD&D, TME, Engineering Consultants Inc, Nabholz Contruction, Comfort Systems, Honors College, University Housing, Facilities Management
9:00			CONCEPT DEVELOPMENT (TA)	CONCEPT DEVELOPMENT (TA, WDD, TME, ECI)			
10:00		STEERING COMMITTEE 10:00 - NOON				STEERING COMMITTEE/TRANSIT & PARKING 10:00 - NOON	
11:00							Residential Facilities Jerrid Freeman, Linda Campbell, Reggie Houser, Tom Sluppick
12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
1:00	TREANOR TRAVEL	CONCEPT DEVELOPMENT (TA)	CONCEPT DEVELOPMENT (Planning Group Review 2:00-3:00)	STEERING COMMITTEE 1:00 - 3:00	Residential Facilities 1:00 - 2:00	TREANOR CLEAN UP / DEPART	Food Service Lynne Williams, Bill Zemke, Kathy Roberts, Morgan Stout, Jack Ervin
2:00					DESIGN DEVELOPMENT		
3:00				Food Service 3:00-4:00			Residential Education Grant Carlson, Jonathan Manz, Jorg Vlanden
4:00				Residential Ed 4:00 - 5:00			Transit & Parking Gary Smith, David Martinson
5:00	DINNER	DINNER	DINNER	DINNER	DINNER	DINNER	STUDENTS
5:00							
7:00	TREANOR ARRIVE / SET UP	CONCEPT DEVELOPMENT / REVISIONS (TA)	CONCEPT DEVELOPMENT / REVISIONS (TA)	STUDENTS 6:00 - 8:00	DESIGN DEVELOPMENT/ PRODUCTION		
8:00				CONCEPT DEVELOPMENT / REVISIONS (TA)			
9:00							
10:00							
11:00							

CHARRETTE SCHEDULE:

- Day 1: Orientation and Investigation; Meet with Steering Committee to go over concepts and clarify goals.
- Day 2: Develop Design Concepts into schematic plans with specific characteristics;
- Day 3: Review developed concepts with committee. Meet with starholder groups.
- Day 4: Refine & consolladate concepts; Further develop remaining concepts.
- Day 5: Final meeting with Steering committee; present developed concepts & interior images. Poll committee for direction for further development.

Charrette Record –

Schematic Design Workshop – EXISTING BUILDING

West Entry – A Wing

North View – Between C & D Wings

South Entry – B Tower

East Façade of Building

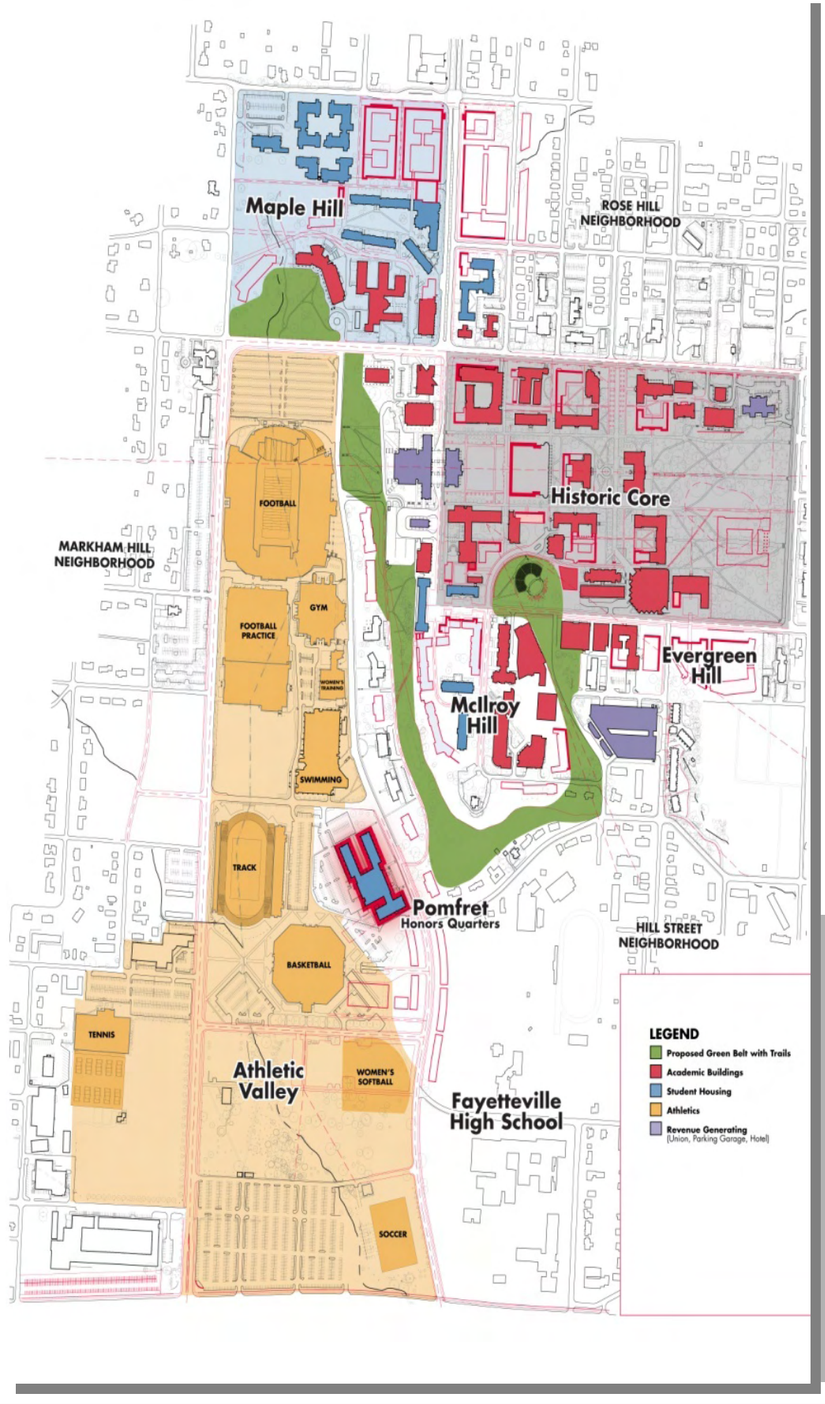
East Facade – A Wing

Charrette Record –
BUILDING SITE LOCATION

Campus Master Plan shows location of Pomfret down-slope from the main academic core of campus, and adjacent to athletic facilities facing Stadium Drive.

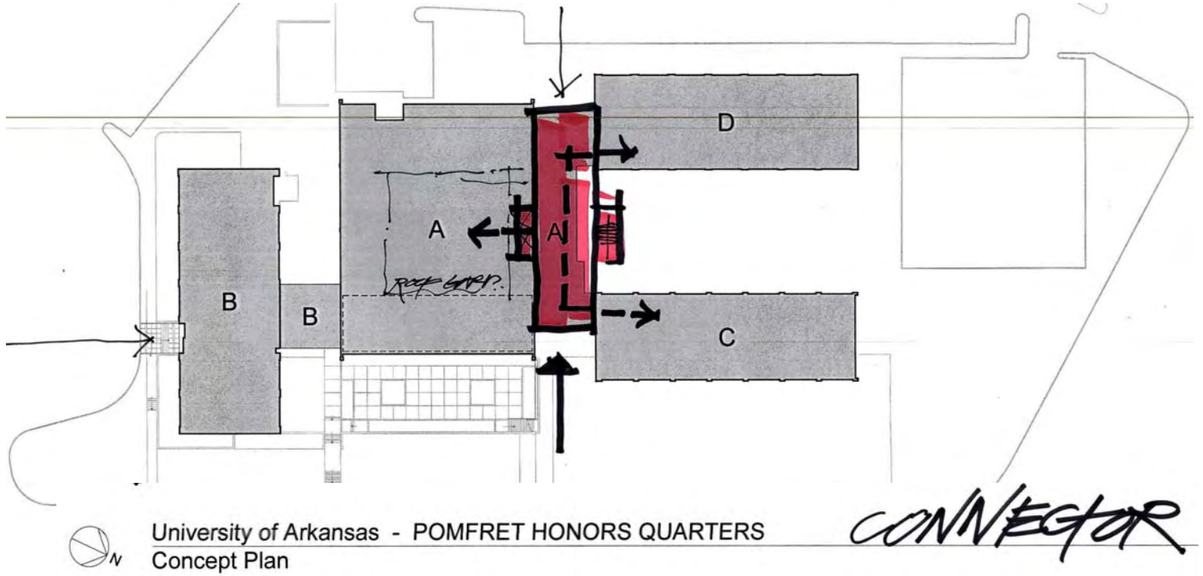
Key components in site planning for Pomfret Hall in

- Placement of main building entry along and facing Stadium Drive;
- Creation of outdoor spaces with the opportunity for interactive synergies;
- Maximize opportunities created by sloping grades around and interacting with building;
- Ease appearance of roof elements as seen from upslope circulation paths;
- Consideration that all sides of building are visible to public;
- Perimeter location and high public profile demands aesthetic attention to building exterior and surrounding site;
- Honors College function demands public access, entry and parking for recruitment.



Charrette Record –

Schematic Design Workshop – Design Concepts Reviewed:

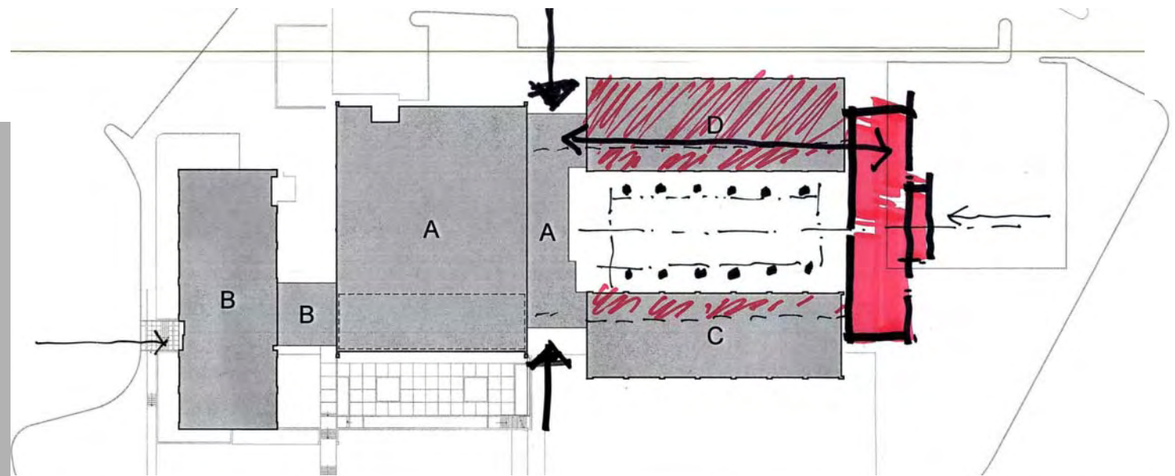


1. CONNECTOR

This concept emphasizes the linear connection of front (East) entry to rear (West) entry. This axis is strengthened and punctuated.

Secondary strength is how the connector ties to residential wings C & D and the commons wing A;

Axis to be delineated on exterior as well as interior;



2. CLOISTER

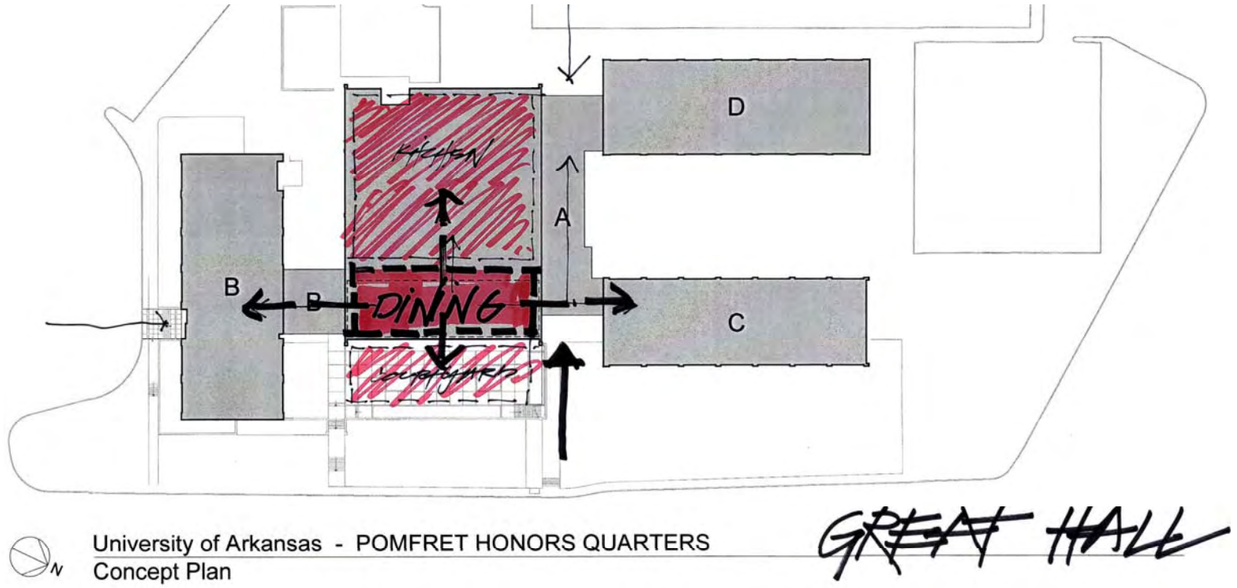
The cloister concept investigates the implications of enclosing the North end of the courtyard between residential wings C & D and connecting the interior with a cloister-type covering.

A new addition at the north end, possibly the Community Learning Center, could anchor the complex and contribute a NEW architectural look for the remainder to follow;

Interior private courtyard adds value to residents;

Charrette Record –

Schematic Design Workshop – Design Concepts Reviewed:

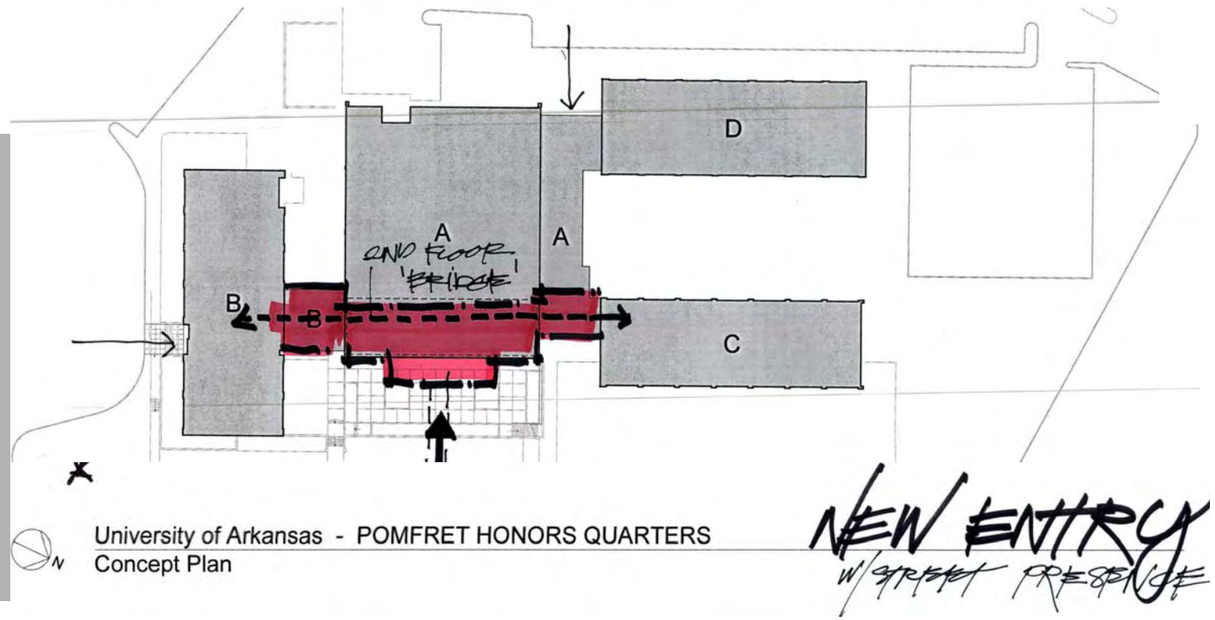


3. GREAT HALL

This concept creates a GREAT HALL in what is now the 'great room' by moving the kitchen to the lower lever and dining adjacent to it in the 2 story space with glass wall on the East.

In its place on the upper level, the CLC and other student and administrative areas can benefit from the opportunity for natural daylighting via roof penetrations;

The more public GREAT HALL allows for extended University activities while securing residential wings without monitoring during events;



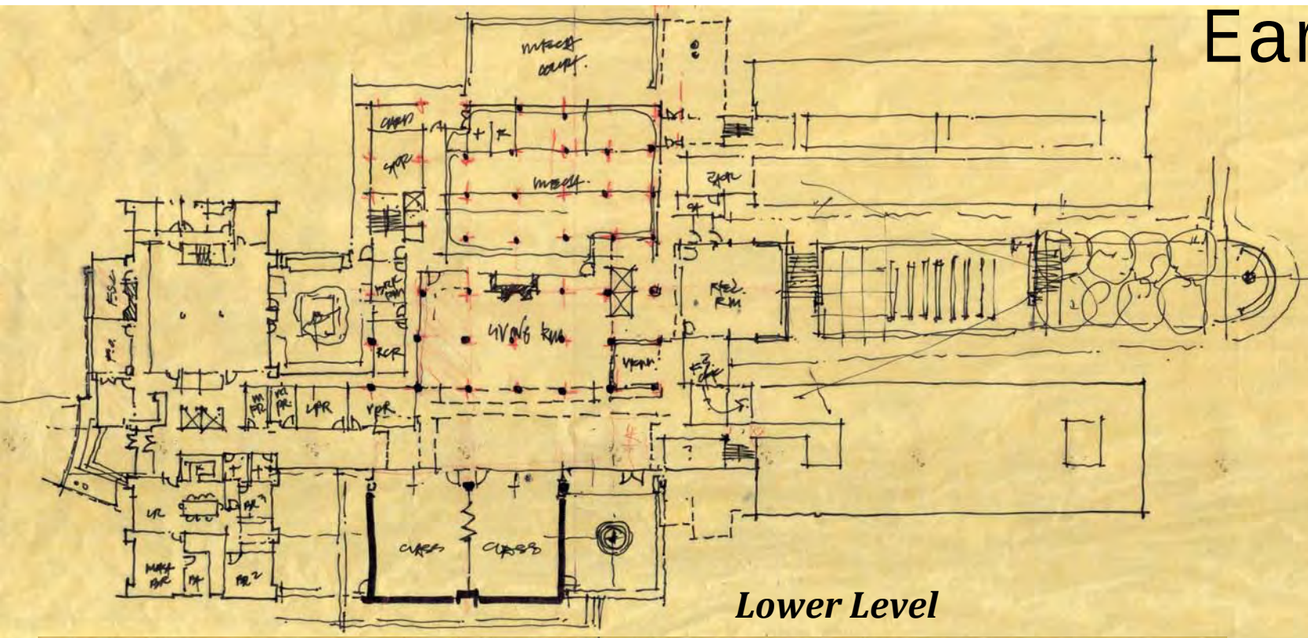
4. NEW ENTRY

Although a goal of the project is to create a recognizable entry to the building, this concept takes that premise a step further and says that the 'street presence' of the building center core can impact the architectural significance of the building as a whole.

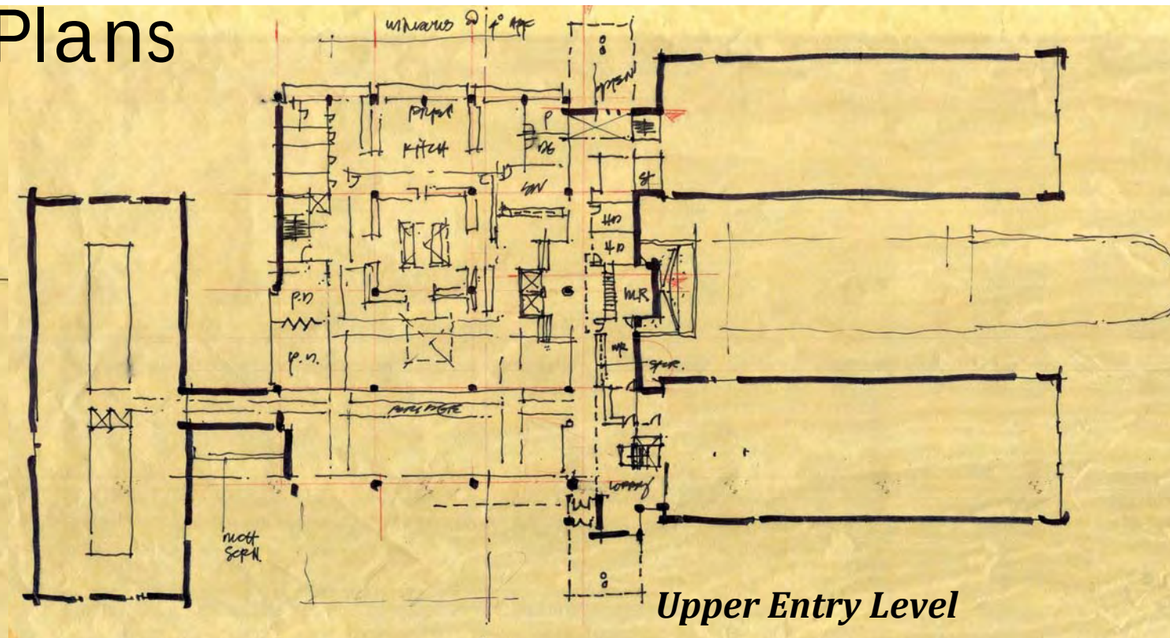
Public center becomes the anchor of the building and becomes prominent in scale and appearance;

Entrance from Stadium Blvd. Becomes emphasized and accessible;

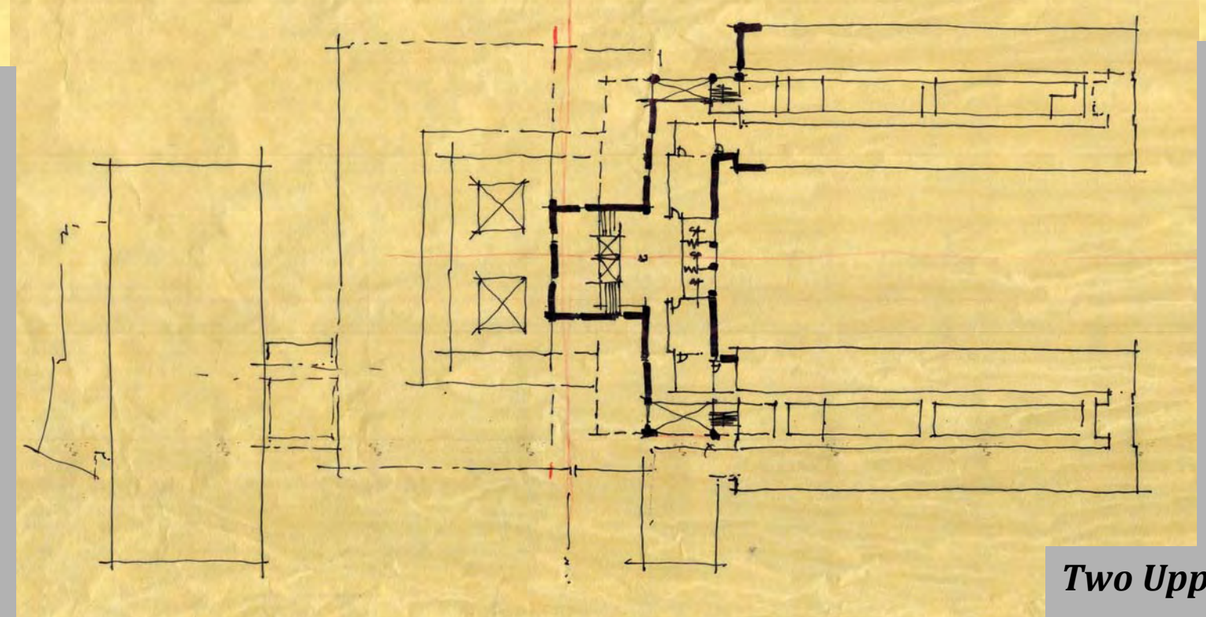
Early Plans



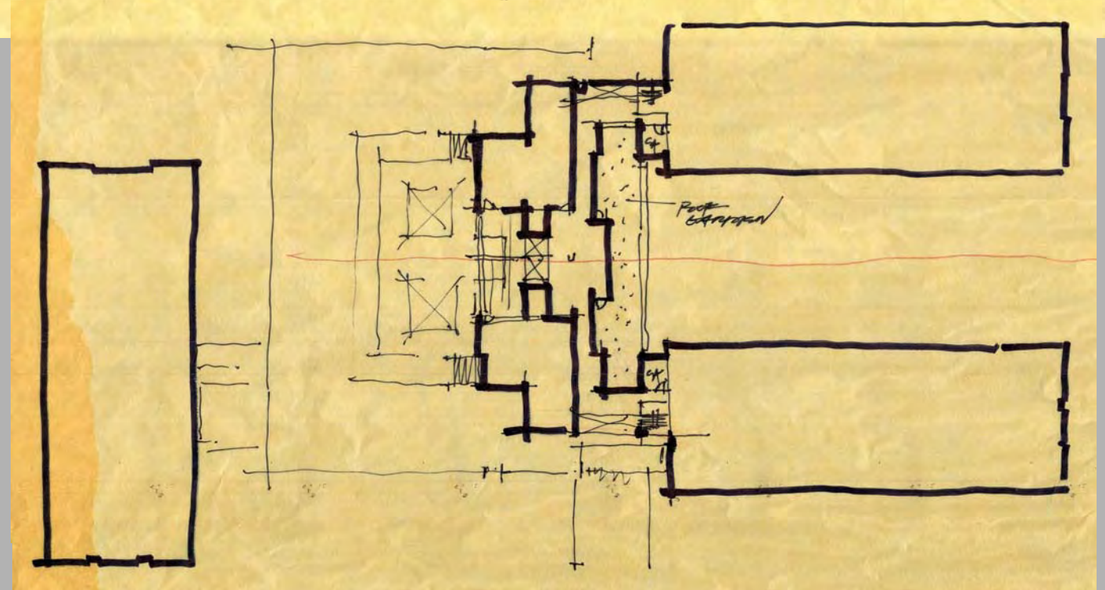
Lower Level



Upper Entry Level

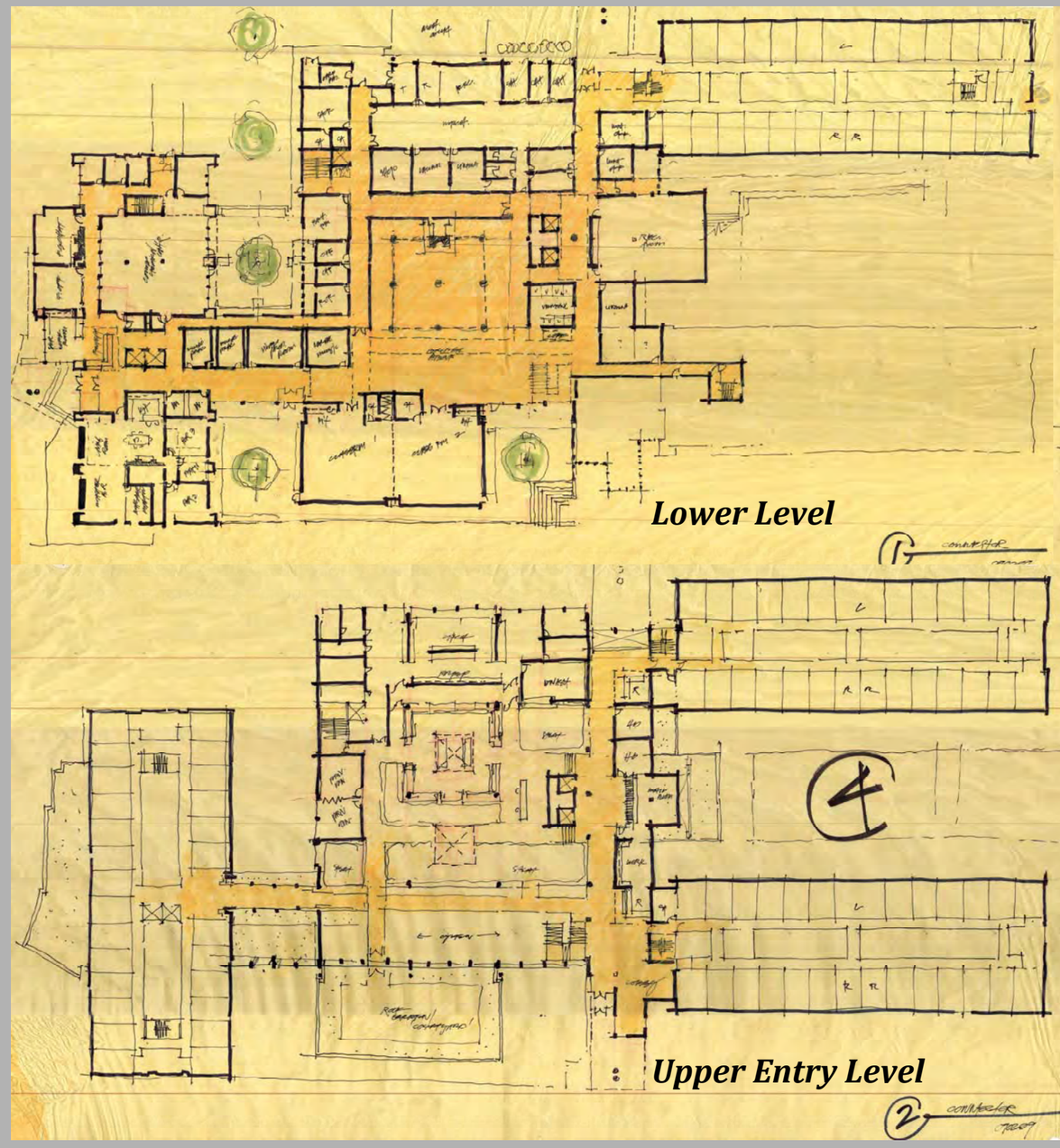


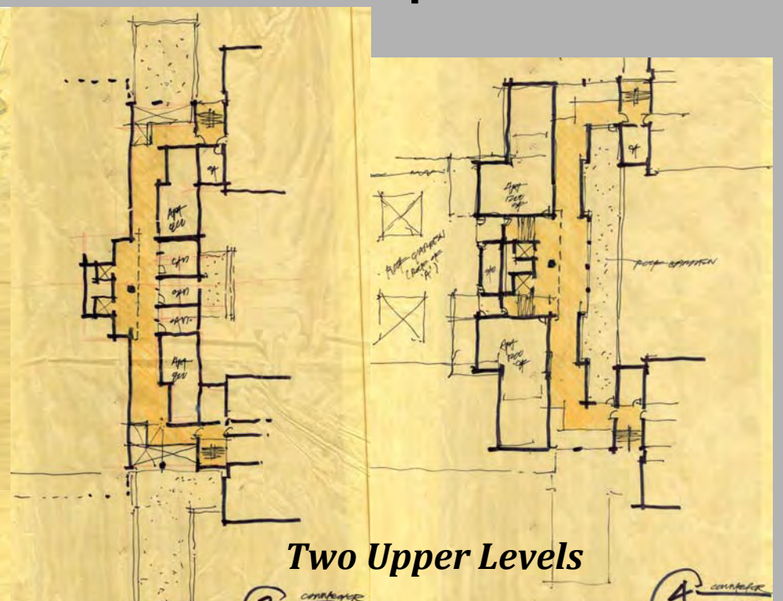
Two Upper Levels



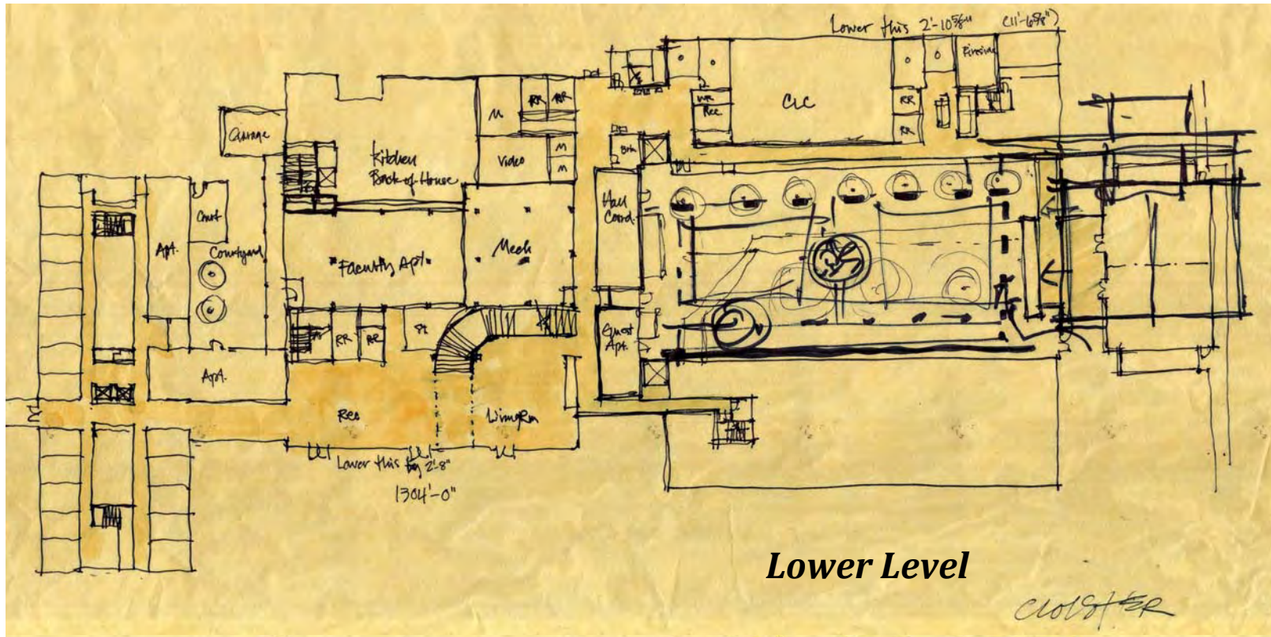
1. CONNECTOR

Concept Plans & Sections

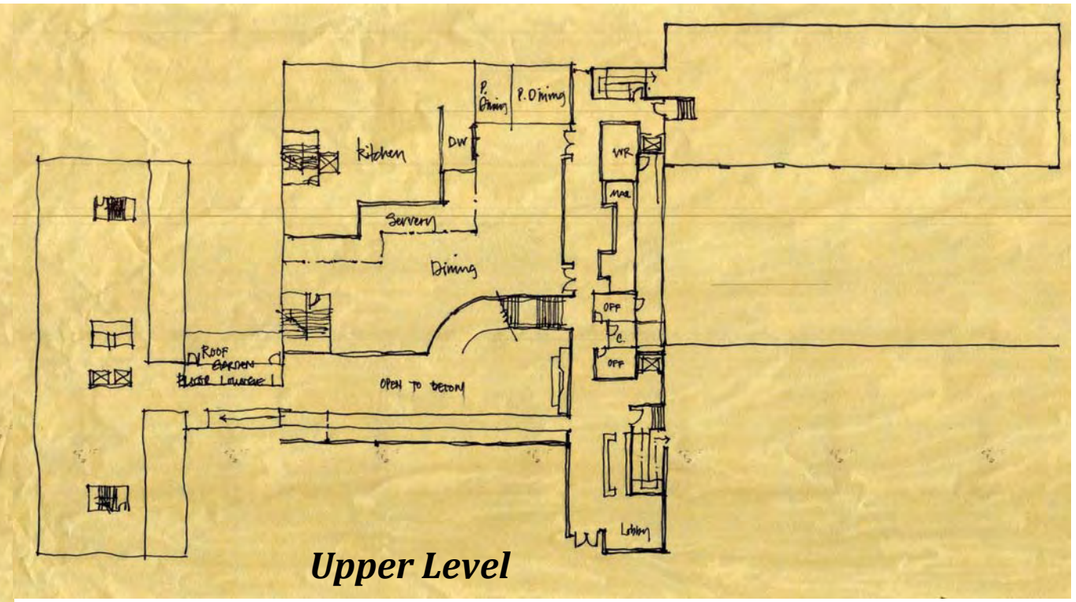




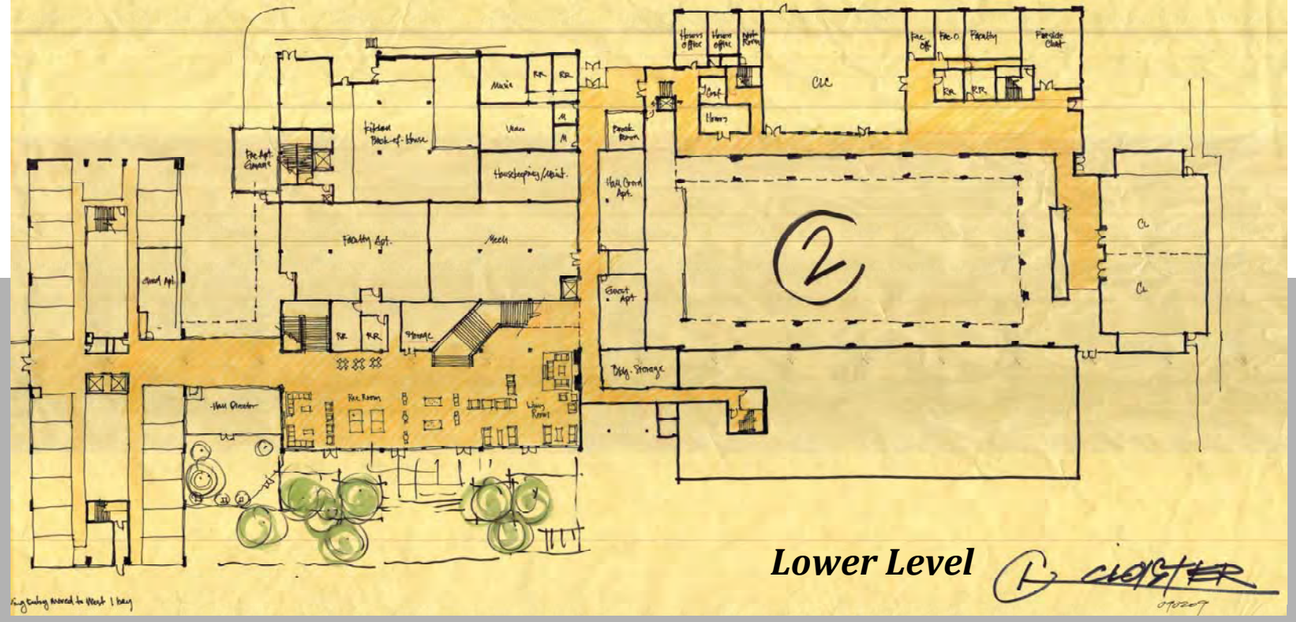
1. CONNECTOR



Lower Level

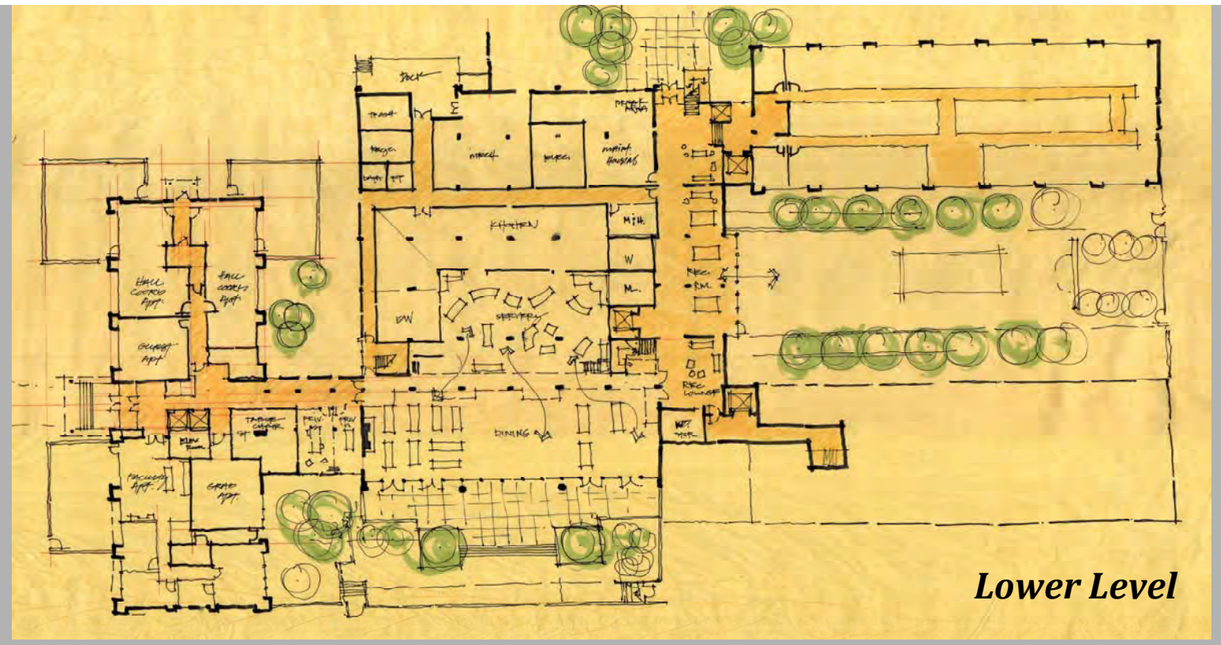


Upper Level

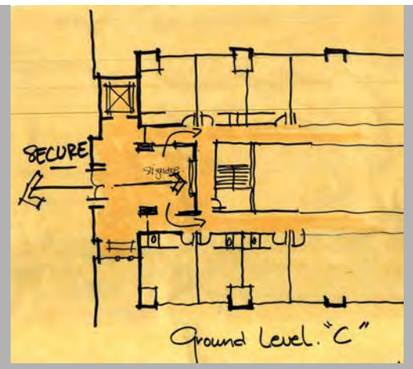


Lower Level

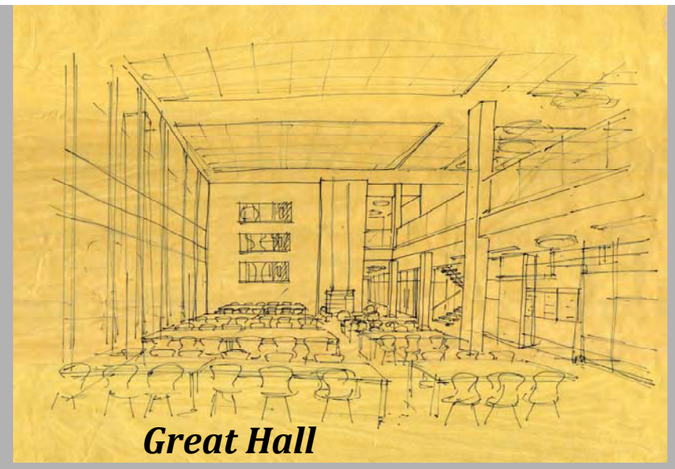
2. CLOISTER



Lower Level

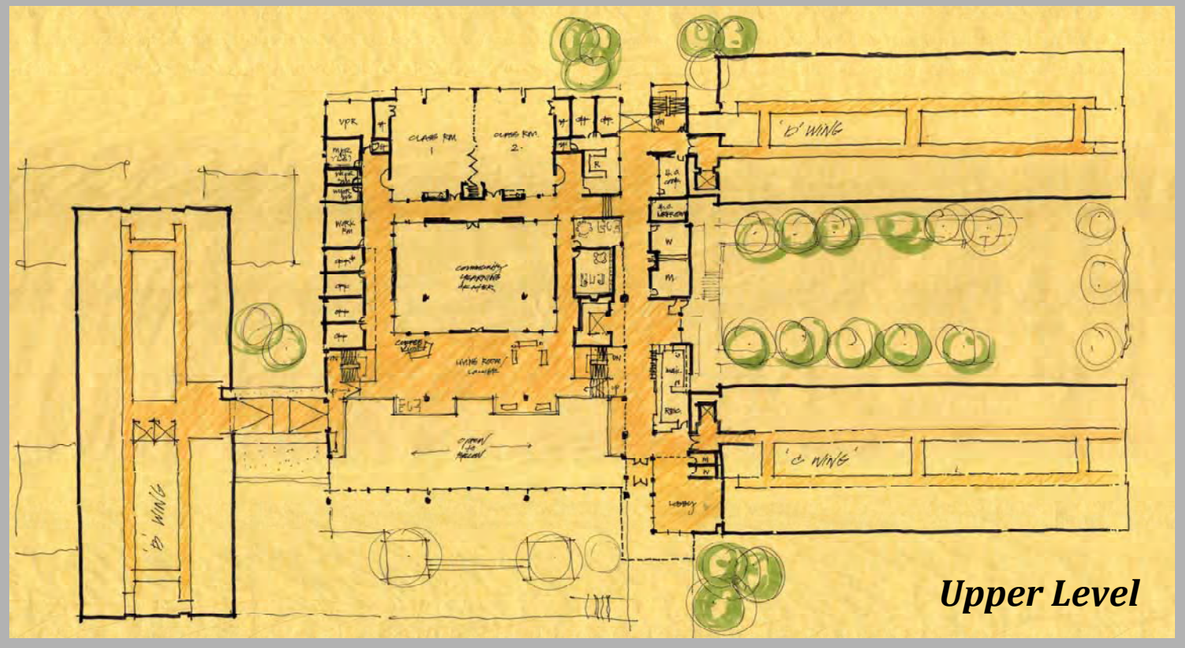


Entry Sequence

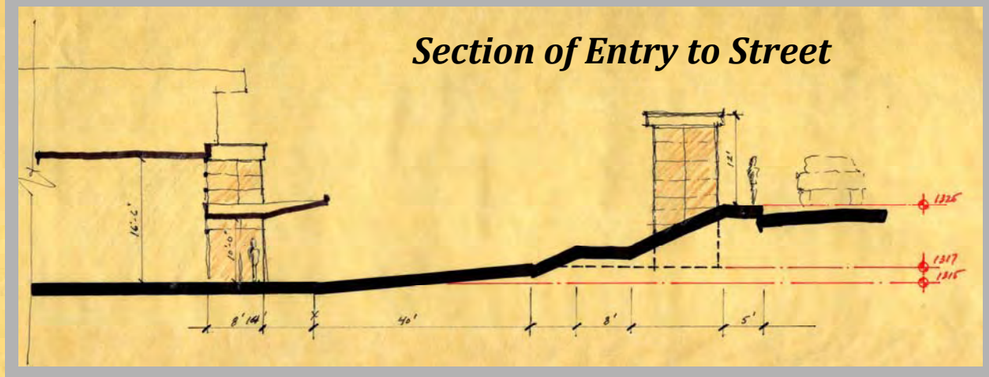


Great Hall

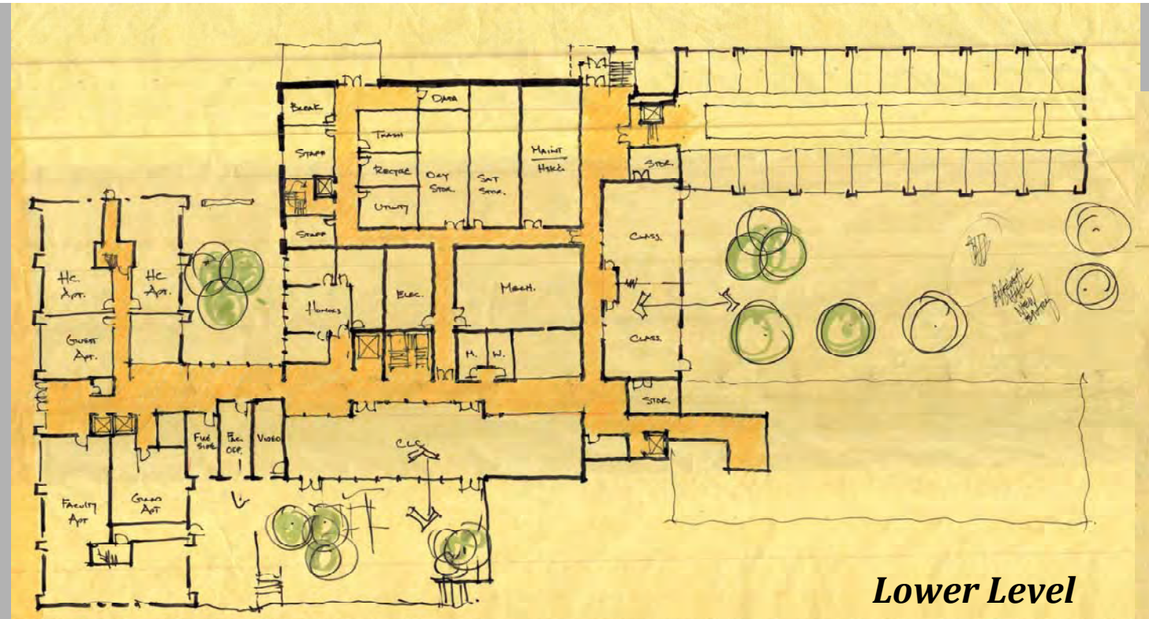
Main Entry



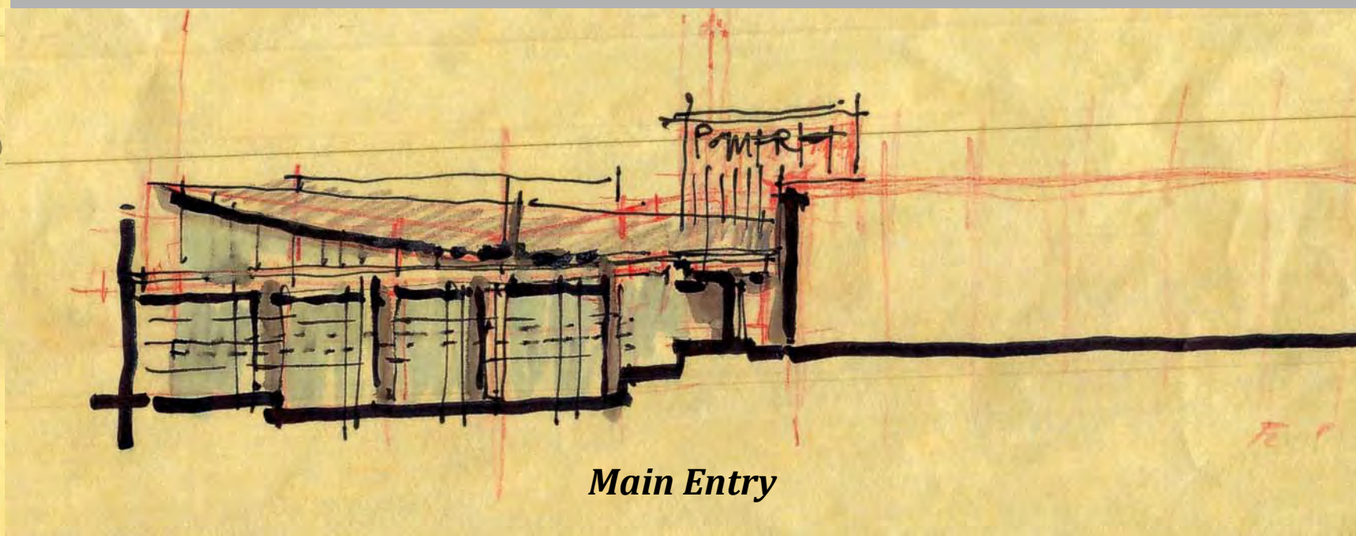
Upper Level



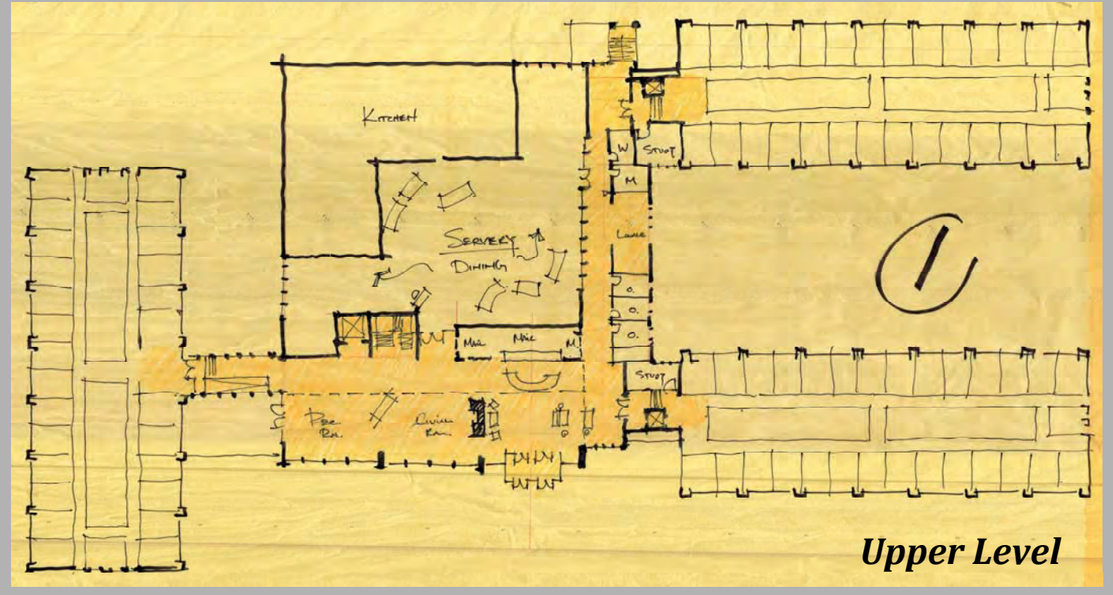
3. GREAT HALL



Lower Level



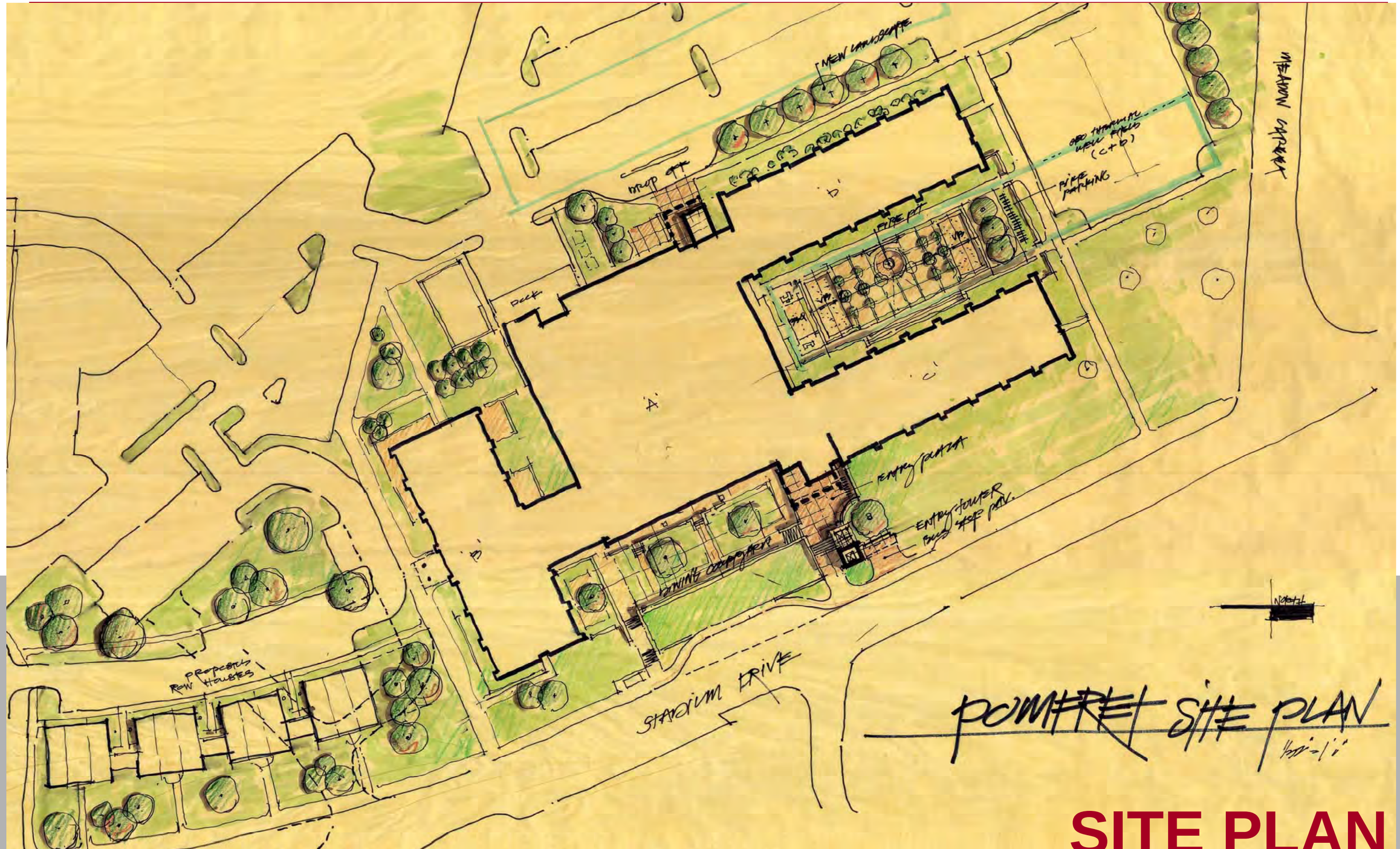
Main Entry



Upper Level

Section of Entry to Street

4. MAIN ENTRY

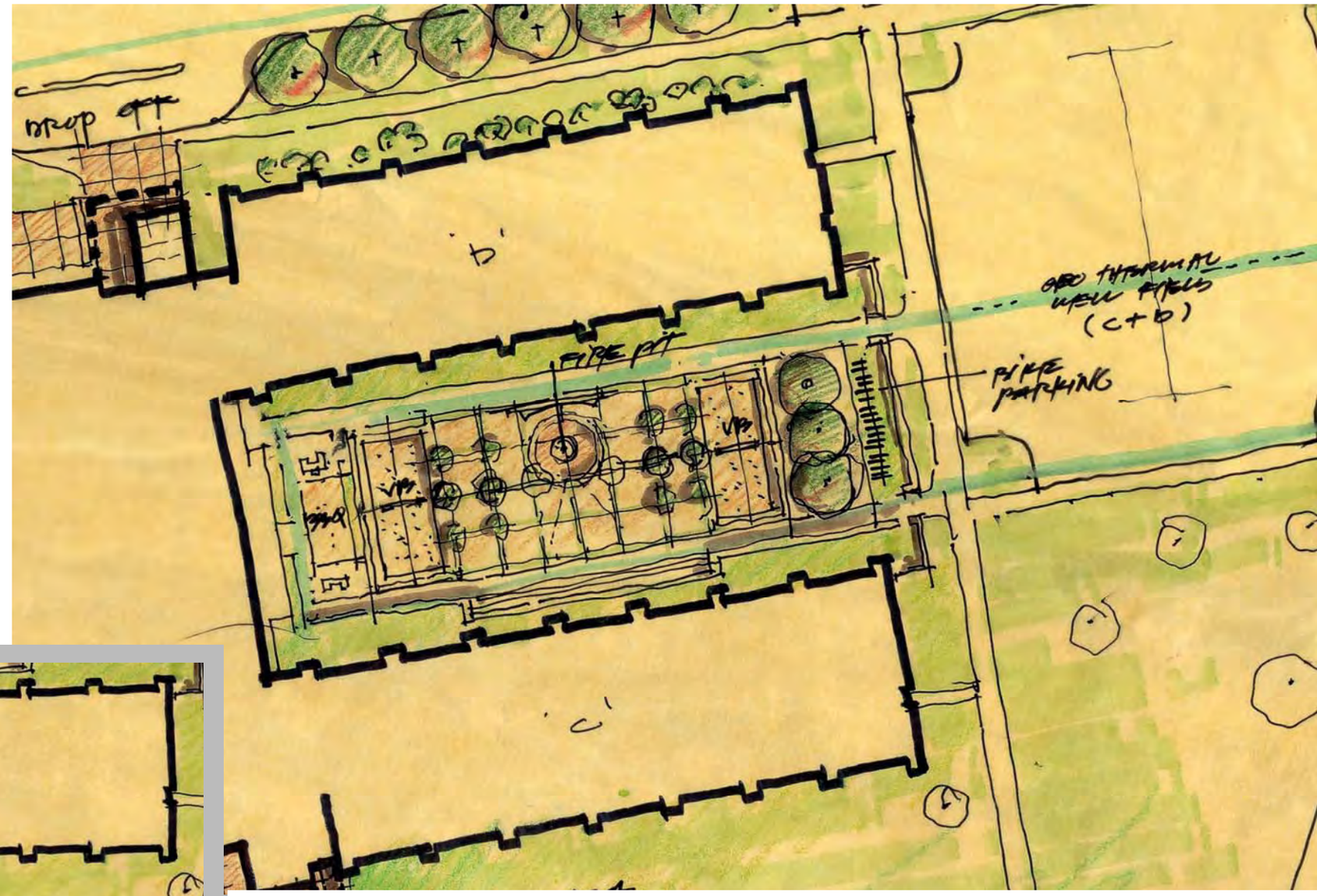

NEW LANDSCAPE
MAIN ENTRY
DECK
FIRE PIT
ADD TEMPORARY UNDER PARKING (C+D)
PARKING
MEADOW STREET
ENTRY PLAZA
ENTRY FOYER
EXISTING COURTYARD
PROPOSED ROW HOUSES
STADIUM DRIVE
POMFRET SITE PLAN

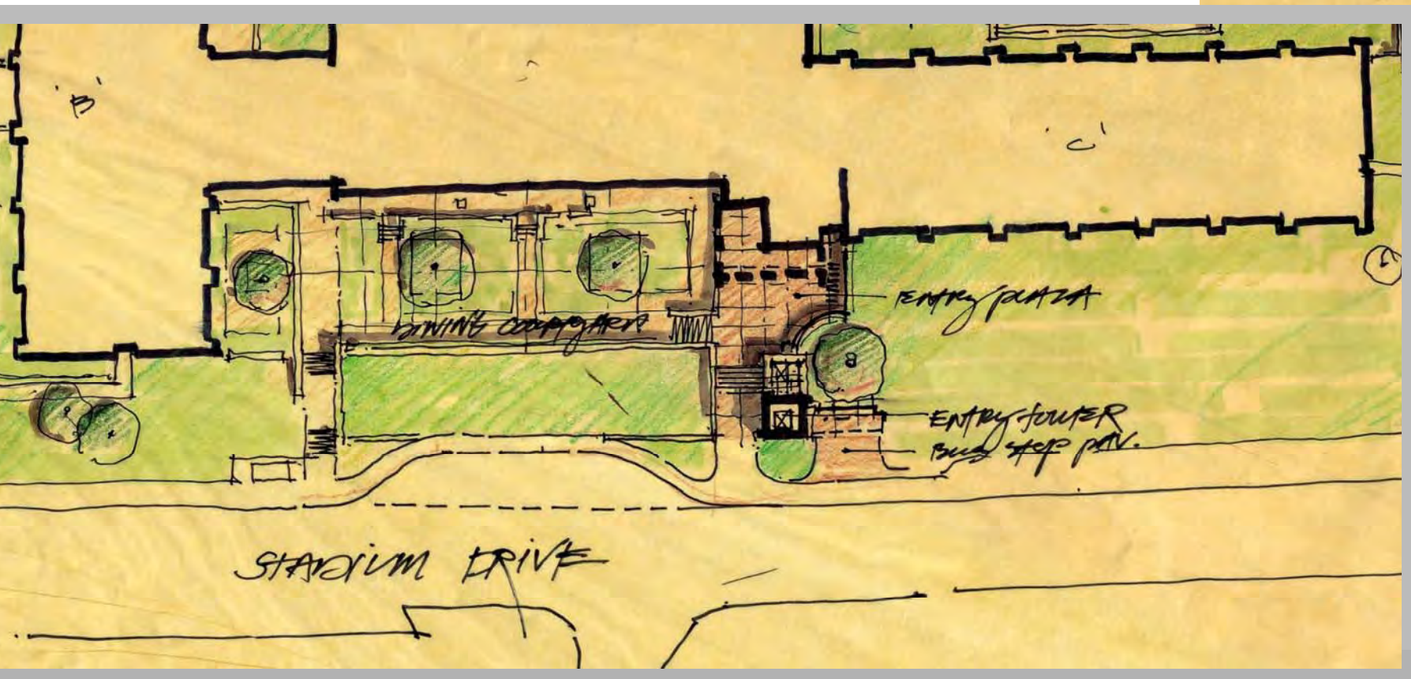
SITE PLAN

Courtyard Between Wings C & D –

This area to become dedicated to resident activities;

- Connects directly to Rec Room and provides spillover activity into adjacent patio;
- Possibility for basketball or volleyball court;
- Partially paved but mostly planted;
- Landscaped for privacy;
- Bike shelter on North end;
- Fence and gate possible at North end;
- Fountain, fire pit, or other feature;
- Terrace/retaining wall E/W elevation change;
- Plantings to screen lower level C Wing residents.





Courtyard East of Wings A Great Hall –

This area becomes an extension of the dining and activities that take place in the GREAT HALL;

- Becomes a feature at the main street entrance;
- Retaining walls and secured gates provide privacy for extension of dining;
- Partially paved, landscaped, terraced, etc.

SITE PLAN